Genius Guide

A comprehensive masterclass to becoming an instant expert



The essential guide to designing & creating stunning fantasy art

Fantasy ART

Welcome to Fantasy ART®

Genius Guide™

There's no better way to express your creativity than through fantasy art. If you're tired of airbrushing, retouching, or being bound by reality, it can be great to let your imagination run wild, and in this book we will show you some of the best tips and techniques to help you take your art to the next level. Whether you use Photoshop, Painter, ZBrush, MAYA or any other number of creative programs, we have something for you within these pages. From designing a steampunk-inspired portrait and creating fantastical animals to painting matte landscapes and building fantasy architecture, you'll discover plenty of inspiration to help you with your projects. We begin the book with essential fantasy art tips from industry professionals, and include expert advice throughout every tutorial across key fantasy genres. So put your creative hat on and delve into the magical world of fantasy art.





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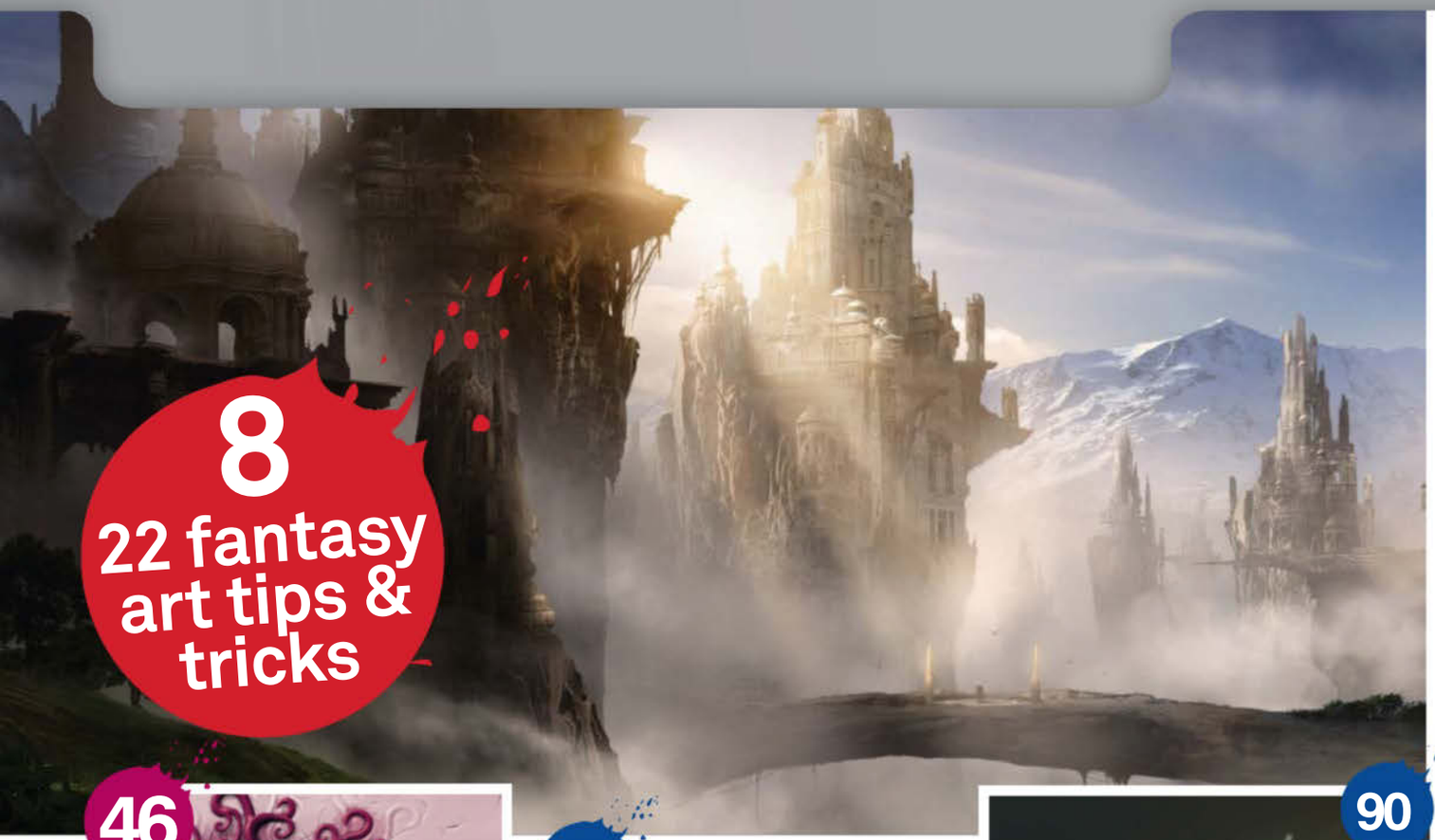
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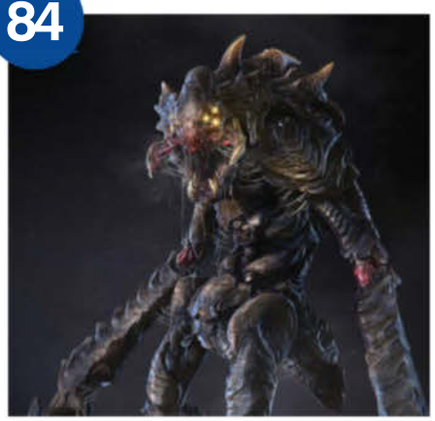


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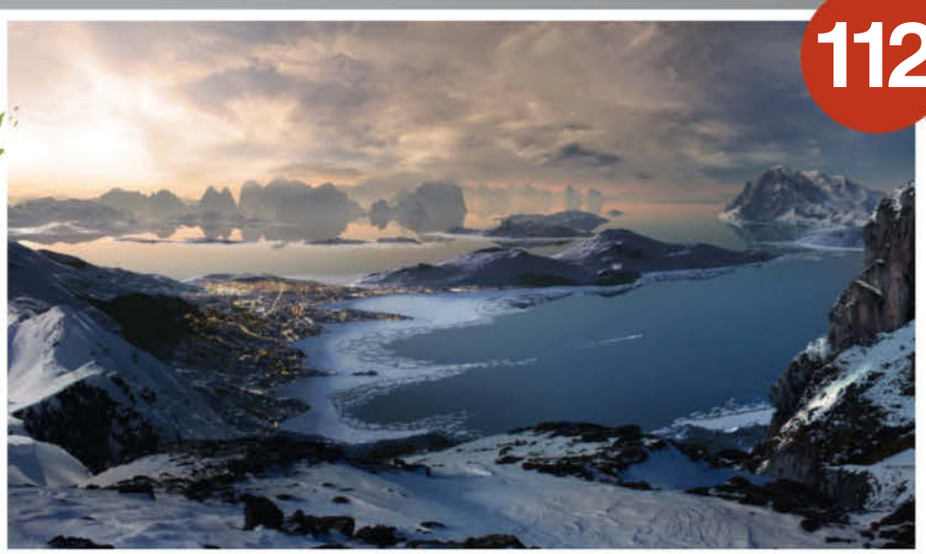
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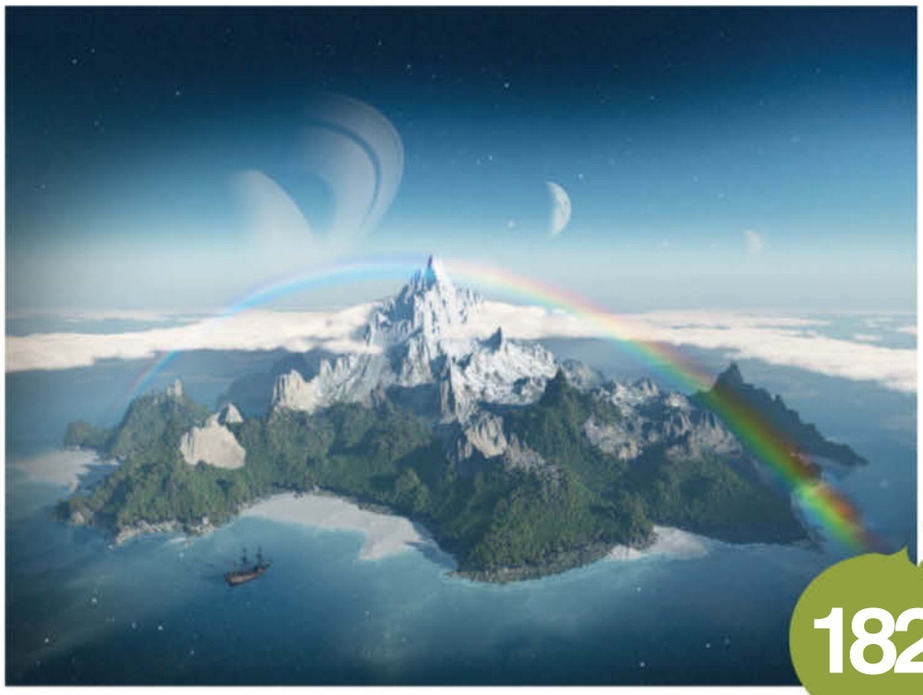






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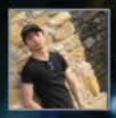
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22 FANTASY TIPS & TRICKS

WE GUIDE YOU FROM CONCEPTION TO COMPLETION WITH 22 TOP TIPS FROM FANTASY ART EXPERTS

© Jack Zhang



1. Contrast & Colour

Jack Zhang
http://jackzhang.deviantart.com

This artwork was created as part of an online challenge. The brief was to make a steampunk character, so I combined two legendary characters from two different cultures: King Kong and the Monkey King.

● **Software** To make this legendary character I used Softimage XSI and Photoshop. Working on it in daily four-hour shifts, it took me around a month to finally complete.

● **Juxtaposition** This piece is all about contrast, so it was my aim to attract the viewer's attention to the factors that clashed in the image: big versus small, west versus east, brute strength versus intelligence, and hot versus cold in the form of the cold metal body of King Kong contrasting against his flaming eyes and mouth.

● **Composition** The composition of the image is quite simple; it features a big main character that fills up most of the space and a small supportive character in the foreground. Both are set against a forest backdrop. The centre of the image, which grabs your initial attention, is the flaming eyes and mouth of King Kong.

● **References** Most people will know who King Kong is, but the Monkey King is the iconic character from the upcoming Hong Kong and Chinese film of the same name, which tells the story of how the eponymous character rebels against the Jade Emperor of heaven. The struggle and rebellious natures of these two subjects is something I've tried to re-create in this image.

● **Colour combinations** Colour was very important in creating a sense of impact, so I decided to give the smaller character a bit of gold and red to make him contrast with King Kong's bigger, cooler and blue-tinted body.

● **Imagination** I engineered the aggressive pose of Kong to give the impression that something was about to happen, especially when contrasted against the defensive pose of the smaller subject. This allows the viewer to use their imagination to determine what will happen next.



2. Get Excited

Alex Kintner
www.alexkintner.com



I find that the most important thing to have when you're starting an image is a reason to be excited by it. There's nothing worse than creating a painting that you don't care about, or that you suddenly lose steam with halfway through because it lacks the challenge or interest that you hoped it would have. One of the ways I avoid this is by sketching constantly. Clichéd, I know, but people say it for a reason. Sketching is the best way for visual people to dump ideas out of their head and into the real world. So, when I was prompted to create a monstrosity that was 100 storeys tall, and impossibly difficult to defeat, I eventually arrived at the idea of tidal flooding and how dangerous rushing water can be in an urban setting. Then I kept revising the design to express the idea that another civilisation shared the same fear, and that they were somehow able to harness and restrain the water spirit that flooded their cities. However, the catch had to be that once it was no longer shapeless and free, it actually turned into something far worse. By this point, I was really jazzed about the design I had on paper and, because I was so excited to begin with, the whole process from then on went nice and smoothly.



3. Create realistic-looking textures

Billy Christian
http://billcreative.deviantart.com

I believe that every fantasy artist has their own style of dragons, so I painted a personal piece about an aquatic dragon chasing dragon-riders. The first thing I did was make a few paper sketches to work out the strongest composition. Once I had established the design I painted my illustration in Photoshop using a graphics tablet. Even though I use tools like layers and blend modes, the process is the same as in most traditional paintings; I paint from darker to lighter colours using round and chalk brushes, which help to make it look more realistic. The hardest part of any digital artwork is the texture, and here I found the textures of the waves and the dragons' scales particularly tough to make. My advice for those in a similar position is this: don't be afraid of using references. Referencing is a good way for you to achieve a realistic-looking and believable painting. You can study and mimic how waves react and what scales look like, and then apply this to your artwork. Try not to over-texture your piece, as it will make your painting look flat and you'll lose points of interest. You can also create texture by using colour and light to separate your focal points from the background; in my painting, the waves are less saturated and I have painted rim lights around the dragons' and riders' bodies to create depth.



22 Fantasy Tips & Tricks



4. Build a fantasy landscape
Alex Ruiz
http://conceptmonster.net

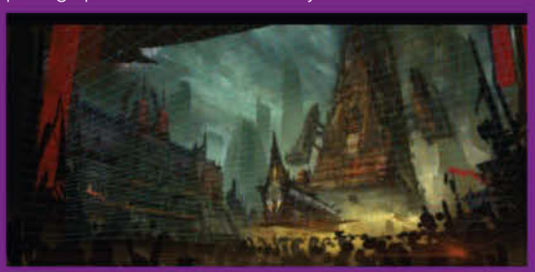
I made 'Procession' entirely in Photoshop CS3, using custom brushes and matte techniques such as painting over the top of the photography.



● **Create the background** Using custom brushes, I chaotically threw down a lot of abstract shapes in a sepia tone, then I placed a dominant shape in the right third of the image using both basic and custom brushes. I introduced a weakly saturated green to red/orange colour gradient for a moody-looking scene.



● **Add details and texture** Sketching freely, I added some secondary areas of interest to the background and indicated 'people' with blobs of dark paint. A rule of environment design is to use lighter things at the back and the darkest ones in front. The textures were Lassoed out from photographs of trains and machinery.



● **Finish with figures** Flags imply civilisation without you having to detail the crowd, while large creatures push the fantasy element. The fireworks are from photos, their layers set to Screen to remove backgrounds. The flying ships, confetti and flags add movement to the piece, and a Gaussian Blur on foreground characters adds focus.





5. Composition: Work with curves
Irene Zeleskou
www.zeleskou.com

Aurora, goddess of the morning, is usually depicted as a golden, beautiful female with wings, and was a great subject to experiment with as there are lots of curves in her pose, body and wings to play with. Curves are the basic and most prominent feature of female beauty, and suggestively create familiarity and comfort. Moreover, curves are very easy on the eye, interesting for the viewer to follow, and associated with nature because of their organic feel. The Golden Spiral is a fantastic composition guide because it embraces and follows this theory, so it was natural that I should use it to compose this image of Aurora. The stars of the fading night sky seen in the top-left corner slowly introduce interest in the spiral, which gradually curves around to the main area of interest – Aurora – and, later still, the main point of focus: her arm and neck.





6. Colour considerations
Sabine Rich
http://sabinerich.deviantart.com

The character in this fantasy art creation was designed to be some type of warrior pixie. When I began the process of creating it, I decided I wanted to give it a natural feel; very earthy and somewhat tribal. As for how I created this image: I first drew a sketch on paper, then I scanned it in and put it on the computer, where I worked out all the lines and got the design, size and everything else right. After that I shaded the whole picture in black and white, then added colours on separate layers set to the Color blend mode – this turns your black and white shades into colours. This is kind of nice, especially when you want to change around any of the colour combinations, and it also helps you to get your values and lighting sorted without having to commit to your final colours.





7. A lesson in lighting
Edli Akolli
http://edli.deviantart.com

One of my favourite images, Lady in the Forest is a great example of one of the ways in which you can create the illusion of natural light. While it's easier, in some respects, to nail down forms in a forest, I feel that the chaotic nature of light can be harder to pull off in this setting as the light passes through countless leaves, dispersing or bouncing from surface to surface and creating all kinds of nuances in colour. In this case I created the leaves using a square brush with the scattering set to maximum, then played around with the brush settings to re-create the effect of sunlight bursting through a canopy. The rays are reflected gradients with some light colours set to Overlay or Colour Dodge. The figure was brought in at the very end to add scale and contrasting colours to the composition.


© Edli Akolli

8. Re-creating oil paintings
Ken Barthelmey
http://theartofken.com

I love the oil paintings of the old masters so I always try to bring as much as possible of this look into my paintings. The first thing I do is sketch with pencil and paper before I start to work in Photoshop. To me, the design of my creatures is more important than the painting itself, so I spend most of my time sketching to come up with ideas. Here, I used references from dinosaurs, insects and other animals.

Afterwards, I scan the sketches into my computer for colouring. The pencil gives my paintings a nice texture and a classic look, so they don't appear too digital. When you look closely at some of my works you can see hatchings from the pencil – it's a subtle, tell-tale trademark. The other thing I like to do is use different custom brushes to re-create that traditional, oil painting-esque style.


© Ken Barthelmey



9. Perspective grids
Kristen Buckner
www.nightwinggalleries.com

With most of my digital pieces, I create a grid to help me with perspective and distance scaling. This creates a better sense of depth and serves to pull the viewer into the painting. Another good piece of advice is to set your background lighting and colours before doing any real work to the main subject. This helps to create the mood of the piece, so set your light sources and define where your shadows and highlights will be. In this image the feathers were painted by blocking in the main colours, including the shadows, and then using the Smudge tool at 90% strength to draw the lighter colour over the darker and give the impression of feathers. The fur was painted in much the same way, working from dark to light and using the Smudge tool at 40% to create the look of the guard hairs on the tails.


© Kristen Buckner



10. Establish workflow
Peter Oedekoven
www.oedekoven-illustration.com

If you use a logical process from start to finish, the rest is easy. I always start with a good idea, then create a strong, clean composition that displays it in the best way. I do this with greyscale sketches.

After finalising the composition, I decide on the colour palette and start to block in the colours. When adding texture, I am a big believer in using your own brushes rather than being tempted to cheat. Some artists use photo referencing to make the painting easier, but in my experience the more you reference the less soul and originality your illustration will have. So I build the picture little by little, and gently go into more detail using my hand-made brushes. Always use separate layers for each foreground element so you can make accurate adjustments and easily correct mistakes.

After the painting is done I adjust the colours and the lighting to ensure the mood is right. In my experience, I've found you can't save a badly-lit and miscoloured image just by switching the tone.


© Peter Oedekoven

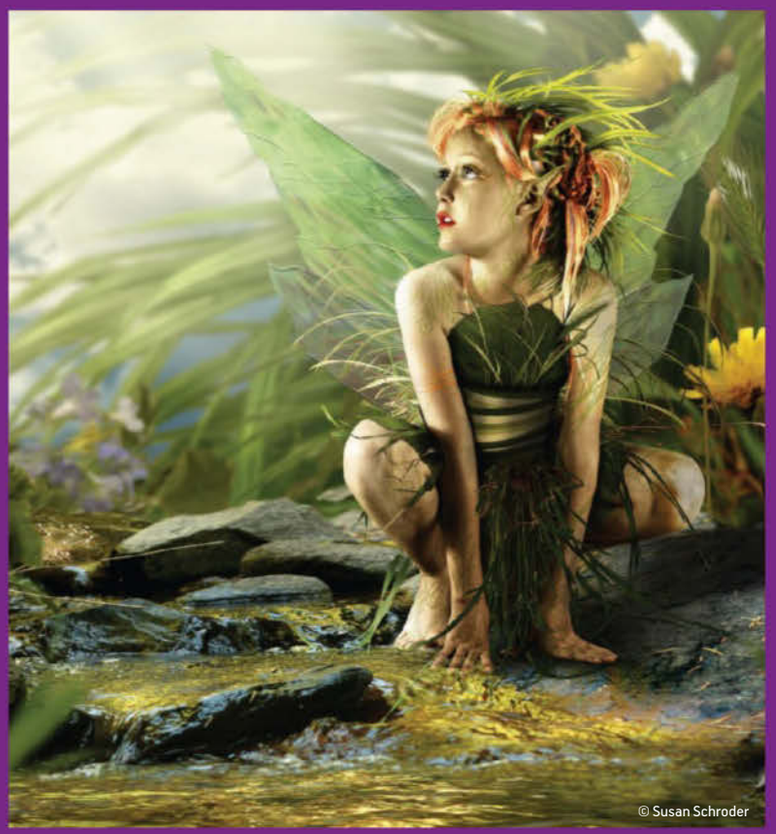
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11. Watercolour effects
Susan Schroder
www.susanschroder.com

The best way to achieve this watercolour effect is to paint in blend modes like Overlay, Soft Light, Hard Light or Vivid Light.

- **From girl to fairy** To turn the young girl into a fairy, I made the skin greener and the hair redder using the Overlay blend mode.
- **A question of clothing** The fairy is dressed in photos of individual blades of grass and leaves that I transformed to her body. To create the fairy's clothing, I used the Transform tool to mould some ginkgo leaves and form the base of her dress, then added single blades of grass to complete the look.
- **Build a backdrop** Next, I added background elements using a separate rock layer and water photos, and then incorporated a variety of plants and flowers to set the scene. To complete the image I painted in some translucent fairy wings.
- **Depth of field** To create the illusion of depth of field I blurred the elements in the background, which increased the focus on the fairy in the foreground. I later included some blurred dandelions in the near-foreground to take this notion one step further.
- **Creating the watercolour effect** I softened the overall tone using the Overlay blend mode. Later, I painted in shadows and highlights on and around the fairy to convey the sense of sunlight.
- **Say no to stock art** I like to compose a fantastical setting of my own creation by using dozens of different photos that I've taken myself. Personally, I get the most joy out of being the originator of all the elements in my art, rather than using stock photos or art.


© Susan Schroder

12. Creating thematic tension
Alex Kintner
www.alexkintner.com

One of the challenges of narrative work is leading the eye. We do this using tools like composition, value, colour intensity, characters and thematic tension. Since the brightest object is the torch, that is where the viewer should naturally 'start'. After that, the eye is led to the woman's face, as we naturally gravitate towards faces. Then we follow the orange glow down the length of the arm, bringing our attention to the closest wolf which, shockingly, is next to where we started – this is the big reveal. I gave this scene more tension by placing the torch in the Huntress's line of sight on the wolf, and having the dagger at the same height as the wolf yet the Huntress looking away.


© Alex Kintner



13. Rendering is a virtue
Martin Faragasso
http://cargocollective.com/faragassomartin

This image was made using Zbrush, Cinema 4D and Photoshop. Time is precious to artists, and adjusting lighting and colours in 3D renders can be really time-consuming. This is where Photoshop is a real treat, since I just render once. Using an additive process, I experiment in Photoshop with adjustments and blend modes. I render a first pass; not too dark or too bright, and in black and white. Then I render several passes and add these on top of the render. I also experiment with a 3D pass – adjusting opacity and Brightness/Contrast or Exposure adjustments – to play with light intensity or the hue and saturation That way, it becomes a non-destructive process.


© Martin Faragasso



14. Achieving realism
Kate Redesiuk
www.redesiuk.com

You can convey realism in many ways, but a lot of them come down to making studies from nature and applying them to your art. If you nail at least one or two aspects of your artwork, such as proportions, colours, lighting or anatomy, your illustrations will be more convincing and compelling. Achieving realism is easier in digital paintings with fewer layers, which are merged down for natural mixing. Here, I ended up with just five background layers, three for the character and ghosts, and three adjustments. That's enough to apply corrections without excessive work while still keeping the file easy to handle. Try using groups and clipping masks for fast, simple editing.


© Kate Redesiuk



15. Utilising Photoshop's toolkit

Archan Nair
http://archann.net



I began Planquadrath with dark neon strokes, using a soft dual brush on the hair and outer edges. I created interesting shapes using the Lasso and a soft brush, then shaded them in with three colour tones. I used harder brush strokes to add bolder tones for a dramatic effect.



This represents a wormhole at the centre of the heart. Starting with an image of a human male body, I reduced its opacity and set it to Hard Light, then added circular shapes with gradients. Using a dual brush setting and by adding pen pressure, I spiralled outwards to create a vortex.



I started with a monochromatic approach but soon introduced red and beige tones to add depth to the landscape. I used the Pen tool to create a dynamic shape (though a Lasso works just as well), then used soft brushes to make an interesting colour gradient. I duplicated the shapes several times, adjusting the size and rotation to create the motifs and patterns that make the final structure and shape of the image.



16. Bring your imagination to life

Ken Barthelmey
http://theartofken.com

Before I start to even think about painting my fantasy creatures, the first thing I always like to do is envisage a background story for them. I always push myself to make my creations as realistic and believable as possible, so having a background story in my mind helps me to reach that goal.

I consider where they live, what they like to eat and what they need to survive. So in this image, for example, which I created as personal project, I have designed a hybrid-like creature that is somewhere between a reptile and a monkey. It is called the Cantoris and it lives in a tropical-style environment, high in the trees, and feeds on insects. These creatures make beautiful sounds and so they are known as 'the singers of the forest'.

To bring my creations to life I begin with pencil sketches that show the subject in an interesting pose, which I later scan into my computer. I know a lot about anatomy and sub-surface scattering but it is always a huge challenge to paint colourful skin that looks believable.

So, because I wanted to blend the visual characteristics of a chameleon and a monkey, I found several reference images from these animals as a guide to help me get started. My technique is very similar to classic oil painting in that I apply colour through the shades from dark to light. Also, by painting a suggestive depth of field, I was able to accentuate the subject in all its glory.



22 Fantasy Tips & Tricks


© Alex Ruiz

17. Blending photography
Alex Ruiz
http://conceptmonster.net

I start a sketch with simple, abstract shapes, for an understanding of depth, lighting and composition, before I introduce the photography.



● **Sky** I added a photographic sky texture to the background, as the sky colour has a huge impact on the scene's colours and you want to get it right early. I also added the suggestion of a sun between the two structures on the left, done on a Screen layer.



● **Perspective** I created a two-point perspective grid to help me design the structures. I used the Pen tool to create these grids as it allows me to go off my canvas to easily find my vanishing points. I set them to different colours using Hue/Saturation and Colorize to help distinguish right from left.



● **Photography** I cut out cathedrals and temples with the Lasso to create fantasy-esque castles, using clipping masks to ensure the photography adhered to my blocked-in value sketches. I then tweaked the perspective of the photography according to my grids and added photos for the foliage and bridge.

18.Be eye catching
Sabine Rich
http://sabinerich.deviantart.com

I try to influence the viewer to focus on various parts of my image, so that the eye flows through it and then back around to really take it in. Photographers call this compositional tactic the 'eye dance', and if you combine the lighting with the movement of the composition you can really bring out the story of the characters. Next time you create a piece of art, think about how all the elements flow together and ensure that the lighting brings your main characters and the key parts of your design into focus. I started this image in black and white so I could concentrate on the general objects, light and shading first.


© Sabine Rich

19. Creature creation
Kate Redesiuk
www.redesiuk.com

This is my fantasy art depiction of the Jackalope. Since fantasy art is often connected with unnatural or exaggerated lighting, I used it to my advantage to make my illustration vibrate with colours.


© Kate Redesiuk

● **Focus your attention** Always roughly sketch out your idea first. It's tempting to just start painting and see what will happen, but this often leads to you concentrating on pointless details or a lack of focus. Mark your composition and key elements with simple shapes.



● **Masks** Painting light and shadows onto objects or adding adjustment layers is much easier with clipping masks. Layer masks are perfect for non-destructively refining shapes, while group masks let you modify whole sets of objects and their visibility.



● **Custom brushes** Use dynamic brushes to quickly create busy backgrounds. Scattering and dual brush options let you paint foliage without having to spend time on each leaf. Depending on the image style, create a custom brush with, for example, a photo of a twig.



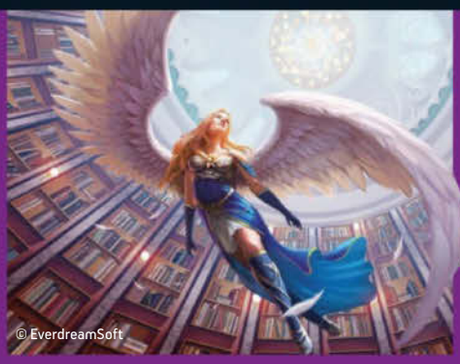


20. Colour connotations

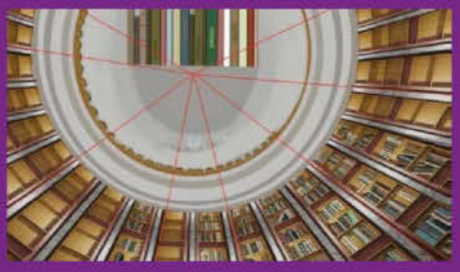
Irene Zeleskou

www.zeleskou.com

I wanted the pale skin of the character to stand out, so I came up with these dark backgrounds. Different colours elicit different emotions in every viewer. The teal conveys calmness, matches the character's eyes and makes her stand out because of the warm/cold scheme. Technically, this is a split complementary palette. The black provides the most contrast and would fit brilliantly if the character was more serious or dramatic. The purple connotes mystery, adding a haze to the image and a faded look to the character. The orange would be apt as it resembles the sunset, but the golden hues of the girl and dragon are lost.









21. Work in 3D

Edli Akolli

http://edli.deviantart.com

To allow for different viewing angles of the same library, I used a 3D rendition of the background.

- **Viewing angle** I didn't worry too much about texture and lighting at the beginning of this piece – all I was concerned with was getting the perspective right. After choosing the viewing angle I wanted, I then started populating the shelves with books, which was fairly simple since many books can be represented just using rectangular solid colours.
- **One-point perspective** To make the books, I created a single group and duplicated it over and over again, changing the colours slightly each time using Hue/Saturation. I used a simple one-point perspective grid to get the perspective on point, and then aligned the individual groups of books by using Edit>Transform>Distort and then following the perspective lines.
- **Light and details** After laying down the objects I added life to the bland 3D rendering, introducing light and atmosphere as well as the character. I put a radial gradient at the top with a light blue colour set to Pin Light to emulate the light of the sky coming through the windows.

22. The importance of layers

Irene Zeleskou

www.zeleskou.com

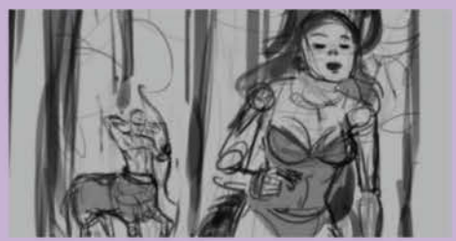
I've found that one way of creating a magical atmosphere is to add effects in new layers over the initial image. Here's how this particular magical image began.

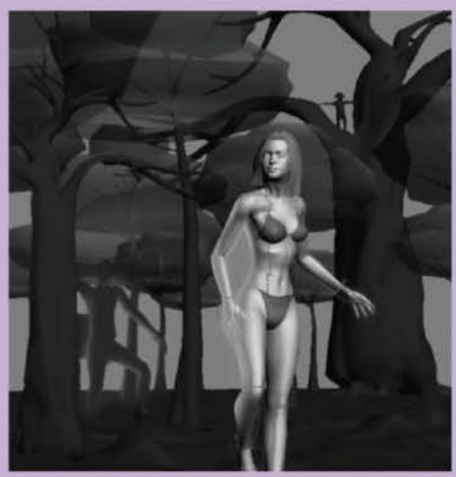


- **Transparent layer** This initial sketch was created digitally in a new transparent layer in Photoshop. If the composition is not right then I cut elements from the lineart and start altering their position and scale to find the best place for them.



- **Composition** I wanted to create a dramatic look and emphasise the relations between the three characters on the scene; the centaur, the lady and the dryad. This was achieved by creating a big contrast between the light in the forms and by experimenting with composition.





- **3D perspective** If I want to flesh out my image more, or I don't have a photo reference, I find that 3DS Max or Poser models act as a helpful guide. They help you get the basic perspective, lighting and anatomy right, which also speeds up the procedure.

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From magical to steampunk



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> “Have fun when deciding your character’s apparel”





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Sculpt folds & fabrics for a fantasy character



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Create a magical witch

The Prey **Photoshop**

Jennifer Healy shows how to paint a non-traditional witch and her surroundings

Jennifer Healy Digital painter

When you think of a witch you tend to think of the traditional character with a long pointy hat, a long nose, warts, broomsticks and cauldrons. But in fantasy, witches are so much more than that stereotype and can hold a great deal of magic and beauty. A fantasy witch is a woman practising magic; sometimes black, but she can also be aligned with good magic. Her practice involves varying degrees of magic, shamanism, folk medicine and spiritual healing, calling on elements and spirits, veneration of ancient deities and the many forces of nature. This kind of witch can have any appearance, but more often than not they are quite attractive. Being tuned to nature can also mean they look a bit unkempt, too, but in a pretty way.

You can have a world of fun when designing your witch's apparel, keeping her sexy but also strong. Her expression should be cool with a hit of mischief and you can add in natural elements to her clothing to show that she uses nature in her craft, further developing her character.

With fantasy images, you don't really have to be practical when designing your armour or clothing; it all depends on your personal preference. If you want your witch to be wearing a big fluffy dress, why not? If you want your witch to be wearing heavy armour, go right ahead. She's a magical character, after all, so mortal concerns like tripping over a hem just don't apply to her!

Portraying the character and the narrative should be your primary objective, so make sure that you add in elements to indicate she is a witch and attuned to nature. This can include a range of details like acorns, pine needles, berries, leaves and so on, and techniques and effects such as lighting, blur and varying levels of detail to give a strong sense of the occult. We will take you through the steps to paint this beautiful and unconventional witch.



Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info

Jennifer Healy

Personal portfolio site **www.beautifulburden.com**
Country **USA**
Software used **Photoshop**

I have been painting digitally since May 2009. I used to be a pencil artist before that. My art usually infuses the beautiful and the ugly in a single painting. Each is also laced with a sense of wonder and mystique.



The painting

Sketch, tweak and colour your scene



01 Sketch the concept With the concept in mind, sketch it all out to place everything before starting the painting process. Start with the background and perspective so you know where it's best to place your character for maximum impact. When you are ready to start painting, add a new layer underneath the sketch.

Source files available

Start off your witch's spell with the sketch on the disc provided



02 Begin with lighting

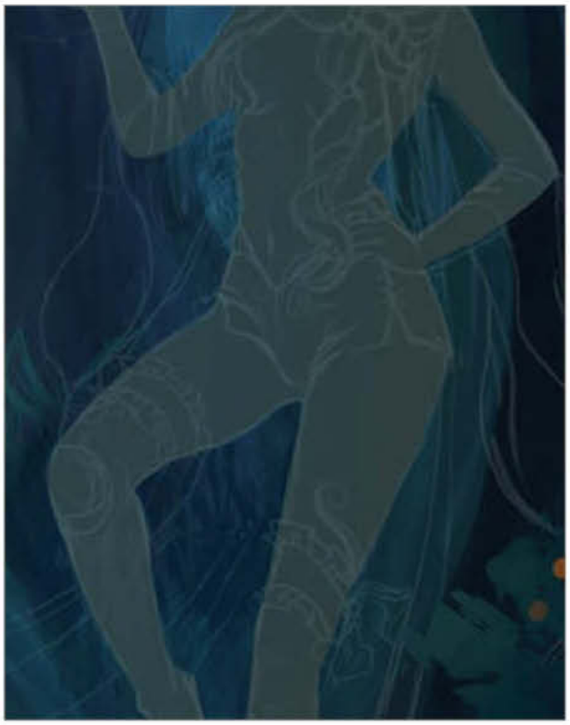
Decide where you want the lighting to be and what colours you want to use for the overall piece. Use a different layer for the trees in case you need to change something later on. Start blocking in the front trees and work your way back, gradually getting lighter the further back you go.

03 Liquify You can add a little more detail to your trees if need be. Open the Filter menu and select Liquify to move and distort your shapes easily for more intricate branches and limbs. Another good method is to select the Lasso tool, Ctrl/right-click on the image and then select Transform. It's not as free as the Liquify filter but still works well.





04 Fireflies Now you can add some sparkle to the bushes and the air with fireflies and glowing berries. You can create a custom brush for these by opening the Brush palette, checking Shape Dynamics, Scattering and Transfer. You can go back into the options to set how far apart you want the scatter. You can also edit within the Brush Tip Shape menu to set how far apart the dots will be.



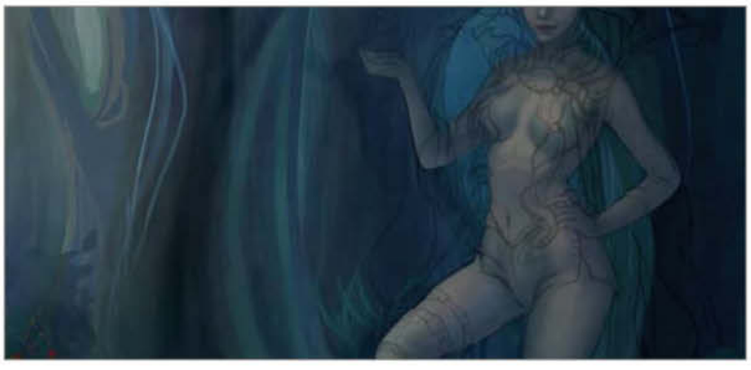
05 Body outline Now it is time to start on the witch. Use a single colour (we recommend something pale if your background is dark) for the base and a Hard Round brush. Be careful and clean when colouring in your lines because you want things to be as smooth as possible. It is best to pick a dark shade for the base so you can work your way up to the highlights. It helps to keep your original sketch showing at this stage so you know where things are as you paint.



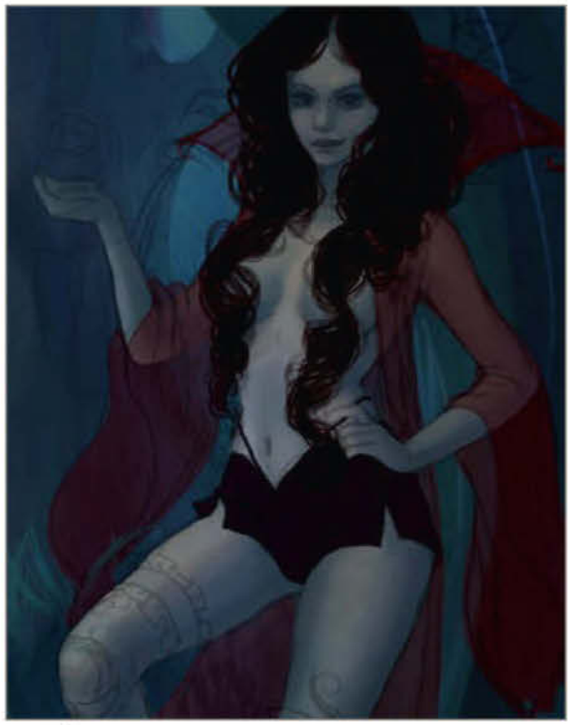
06 Start the skin Now you need to duplicate the layer. Ctrl/right-click and select Duplicate, then select Create Clipping Mask to help you stay in the lines. Now select a Soft Round brush at 12% Opacity. This helps even things out as you paint. Pick a midtone skin colour and begin to shade in her body.

Quick Tip

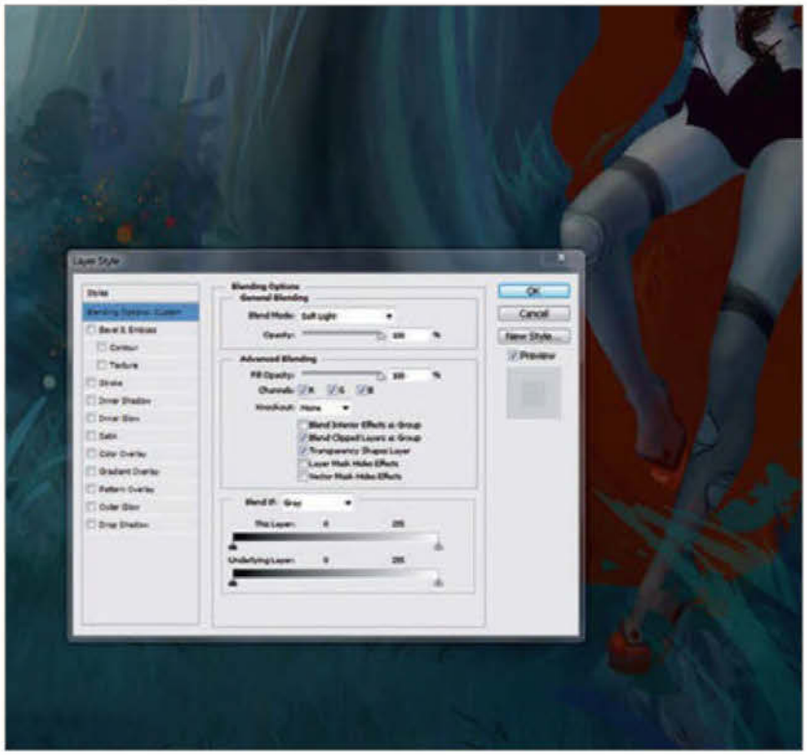
It's okay if you decide to change something from your original sketch. A good example is if you don't like the way something looks or you decide something else will look better in its place. As you go along, many things may be moved or switched around.



07 Layer for detail Even though her clothes will cover some parts, you can still paint all of the skin underneath. This helps a great deal if you need to move some clothing or decide to redesign a part of her costume along the way. Keep adding more layers of midtones to help keep the fleshy look, as sticking to one colour is likely to render it lifeless.



08 Blocking in Go ahead and pick out the colours you want for the clothing, hair and hair accessories. Now create a base for each just like you did with the skin, as this will help with applying the shadows later on. Use a Hard Round brush at 100% Opacity. Use a different layer for each different element.



09 Paint the stockings When you get to painting the stockings, create a clipping mask on top of the skin layer. This helps keep the stocking perfectly within the shape of her legs. Pick your colour and set the brush Opacity to 40%. You can also set the layer to Soft Light mode if it helps.

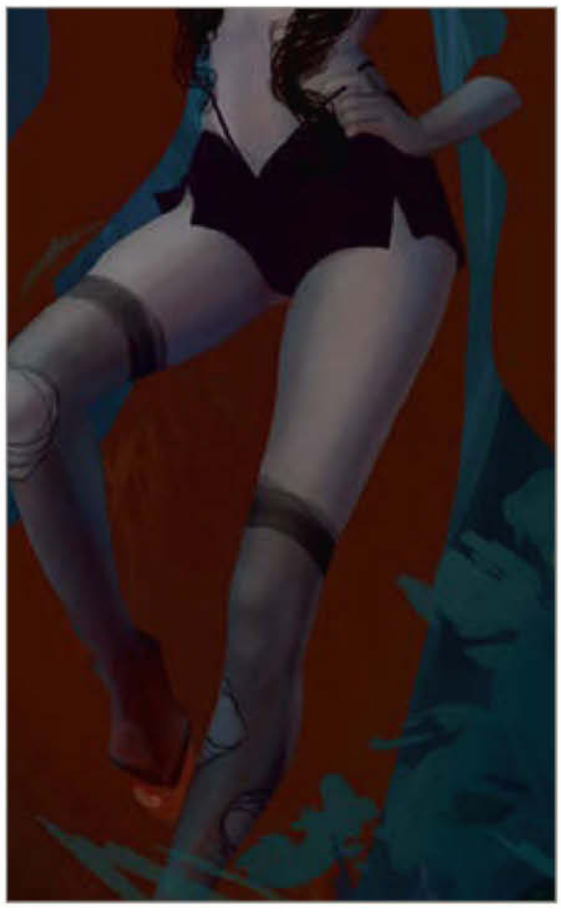


Quick Tip

Don't forget to check your tonal values. Add another new layer, select the Paint Bucket tool with white, fill the whole canvas and then click on Layer Properties. You can now set this to the Color blend mode and this will make changes easier. Leave this layer so you can toggle it on and off.

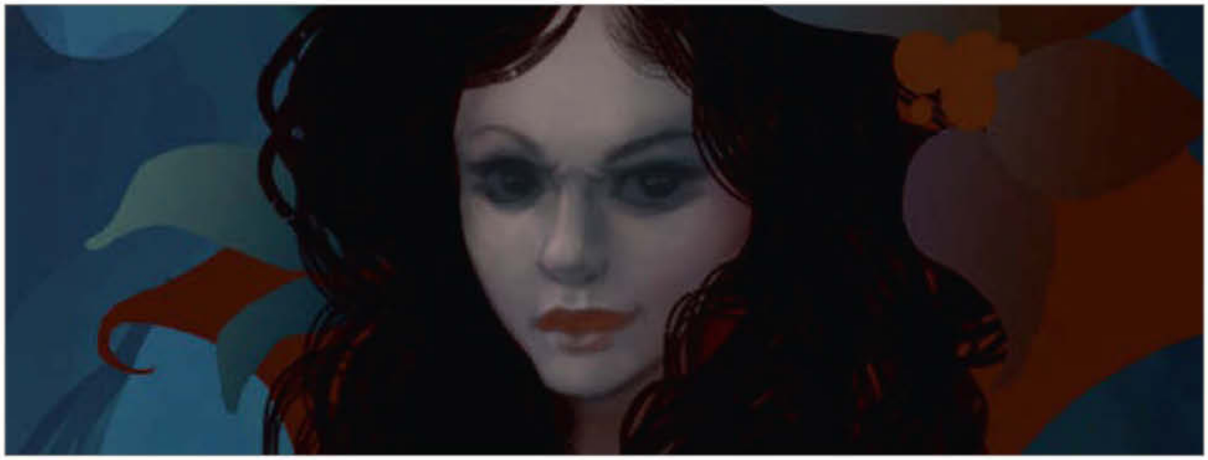
10 Shading Now that you have all your colours blocked in you can start shading the skin more. It's easier now since you can see where all the shadows will be from the clothing. Keep adding tones until you are satisfied with the overall look. You can go back later on and put in the details.

11 Skin colours If you still think the skin is a little flat and you are not comfortable adding coloured paint over the shaded area, there is an easy fix. Add another clipping mask on top of that layer and set it to the Color blend mode. Use a low-opacity brush and gently paint in the colours of your choice.



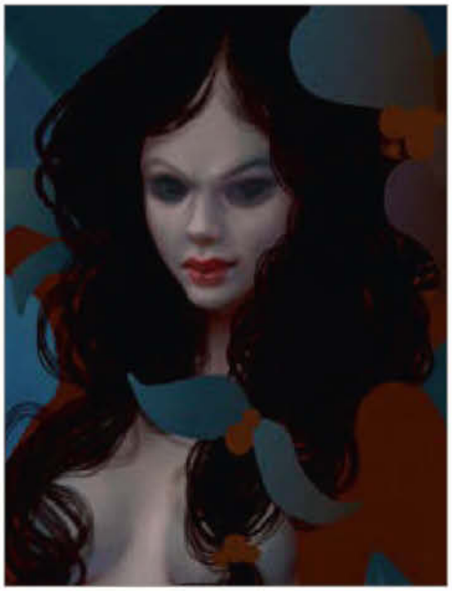
12 Work on the face

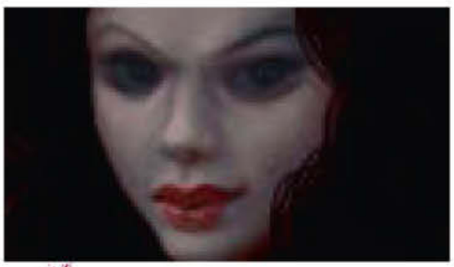
Now you can start working on the face. This part alone can take a while and requires a lot of attention and time. Make sure you stick with the same colours you used for the rest of the body. Use a midtone and start sculpting out her features.



Quick Tip

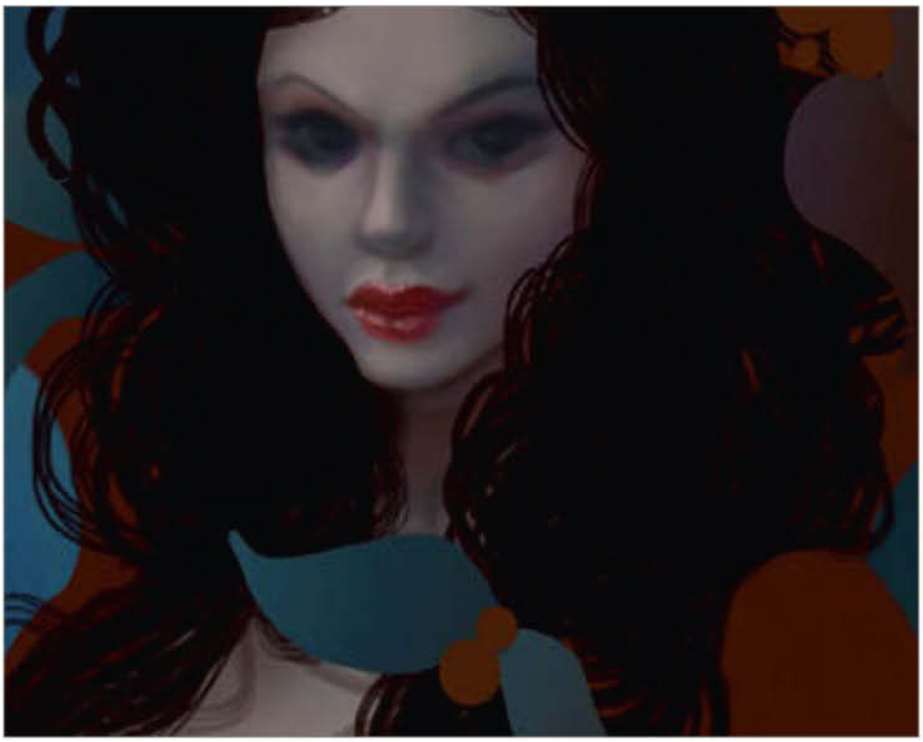
It is a good idea to name your layers as you create them. If you have over 200 layers and nothing is labelled you will end up spending a lot of time checking each layer to find the one you need!





14 Shape the nose Let's start shaping up the nose now. A good way to help you keep the shape and shading realistic is to get a mirror and reference your own nose as you're working!

13 Lips Once you've done that you can start on the lips. Start with a flat, fairly dark colour and make sure the brush tip is soft enough. Now add a lighter colour to begin giving the lips some depth. Search the internet or your art books for references if you need a bit of help at this stage. The top lip is usually darker than the bottom one, so we painted it in slightly darker tones. Be careful to keep her expression right here.

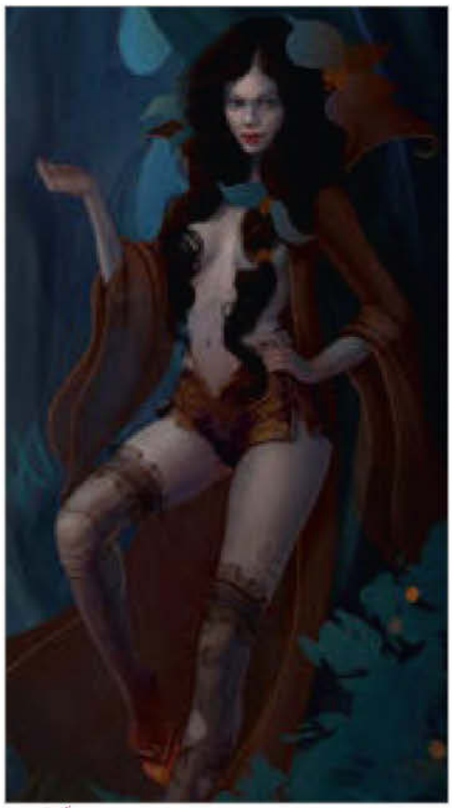


15 Final features

For the eyes you need a soft brush and a light colour. Set the brush Opacity to 7% and, very lightly, paint in the whites of her eyes to begin with. Now take a Hard Round brush and add in the bottom eyelids.



16 Build tones For the hair, start out with the darkest tones. Once you have the base down you will have a better idea of where the bigger strands will be. Pick a lighter tone and work in the bigger strands. Repeat this until you have finished even the tiniest parts.







17 Robe and accessories Pick a colour that is two shades lighter than the base of your robe. Use a low-opacity brush and start blending in the tonal values to create some highlights and a sense of movement in the fabric. Do the same for the rest of the clothing then start adding some patterning and detail on her garments. Use a low-opacity eraser to remove areas and make it look more realistic. You can also set this layer to Soft Light or Overlay.

18 Highlights Now you can start applying your highlights to the skin. You don't have to go into too much detail just yet, just enough to get the general mapping together. Try to match the highlight colours to the background's highlight. You can add more hues to make the skin seem more alive as well.





19 Cat and sprites Use a base colour for the cat and then go through the same process as you did for the clothing. The hair is also rendered in the same way but using smaller strokes. For the sprites, use a soft brush with a lighter colour and build up strokes to make them glow.

20 Colour and detail Go back and double-check your image. If a certain area is lacking colour, use another layer set to Color mode to fix it. And don't forget to flip your image as this helps point out your mistakes. If everything looks good then you are now finished with your witch image!



Norse character design

Freyja 2011 **Photoshop**

"Lili Ibrahim takes you step by step through how to paint an army going to war and the Norse goddess watching over them"

Lili Ibrahim Illustrator

Rich and fascinating, Norse mythology flourished in Scandinavia prior to Christianity during the Middle Ages, specifically the Viking Age, dating from the 8th to the 11th Century. Norse mythology has a lot of iconic gods and goddesses who are well known thanks to modern interpretations of the characters. There has been a particular resurgence of interest recently with the release of films like *Thor* and *The Avengers*.

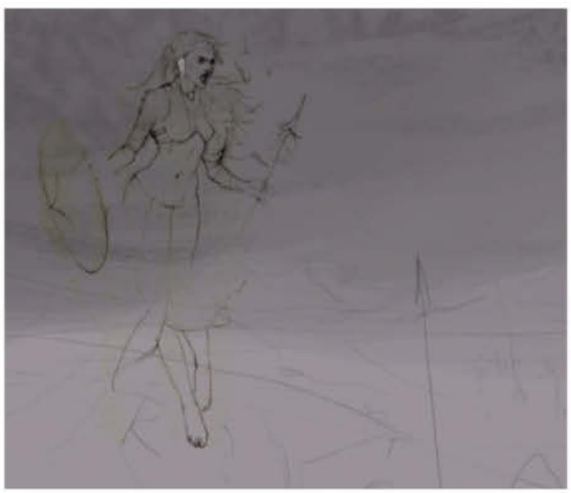
One of the better-known goddesses from these stories, Freyja, is the goddess of love, beauty, fertility, war and death, and rules over the Fólkvangr, the meadow where half of all soldiers slain in battle go after death. Freyja is often depicted wearing a cloak of falcon feathers with her necklace Brisingamen hanging around her neck. Freyja is also often seen next to her boar Hildisvíni (literally translated to battle swine) and the two cats who pull her chariot.

The illustration in this step-by-step tutorial depicts Freyja with most of her iconic items. Her design is also influenced by valkyries – the mythological creatures often associated with her. Valkyries are female battlefield psychopomps, and sometimes Freyja is depicted as a valkyrie herself. The scene in the illustration is a war scene, where an army moves across a landscape with Freyja watching over them, waiting to collect their souls.



Painting Freyja

Prepare your canvas for the goddess of beauty and war





01 **Sketch** It helps to sketch out your ideas on paper before taking it into Photoshop. Keep this stage loose and, when you have found the idea and composition you want to, bring it into the program. Set your sketch to Multiply and roughly throw down some greys on a layer beneath to get an idea of space.

02 **Block out the background** In a background-heavy piece like this, I recommend getting this part done before the character. Start blocking it out by playing around with dark and light values.

Source files available

Study the sketch on the disc to help pose your character

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Lili Ibrahim

Personal portfolio site **www.liliibrahim.com**
Country **UK**
Software used **Photoshop, Zbrush, Maya, 3DS Max**
Lili Ibrahim is a freelance concept artist and illustrator working from and living in her London apartment. She is a film and games enthusiast with a degree in illustration and animation, hoping to bring something exciting to the industry.



03 Character silhouette With a neutral grey and using the Lasso and Paint Bucket tools, fill in the shape of your character on a new layer under the sketch. On a layer set to Color, you can introduce some more distinct tones to the background. These colours will help you convey atmosphere for your piece. At this stage, try to keep to a limited colour palette for simplicity.



04 Paint the sky Switch off the silhouette of the character and start painting the sky. By keeping the sketch of the character still visible, you can plan out the details in your clouds and lighting to make sure they don't clash with the shape of the character. The sky immediately surrounding the character's face and upper body has been left a bit less detailed than the rest.

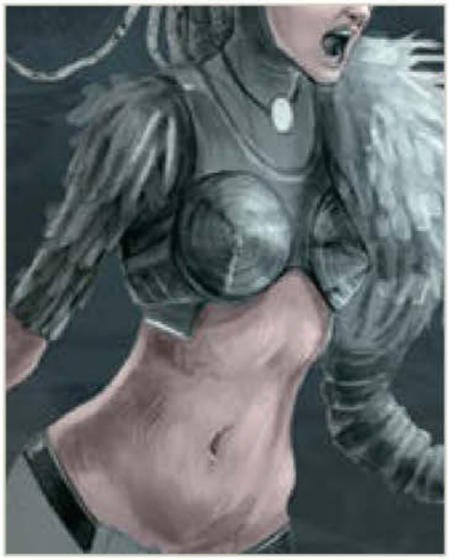


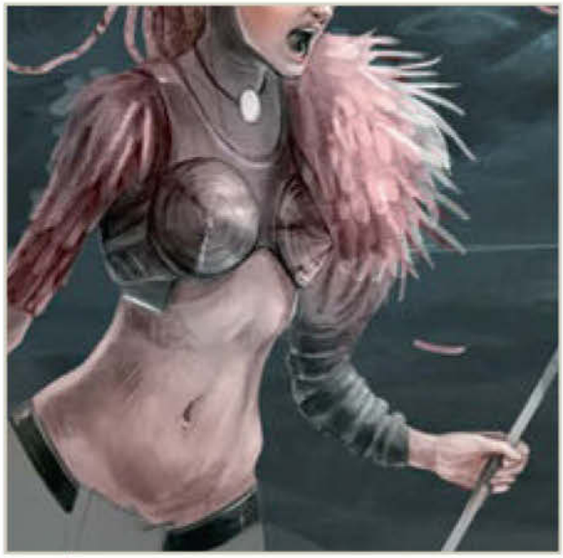
05 Paint the ground When you are starting to feel good about the sky, move down to the ground. The colours of the hills are fading into the colour of the sky the further back into the picture they are to show perspective. The closer ground is kept bright red and the contrast here is stronger as well.



06 Character values Switch on the character silhouette again and, on an new layer set to the Overlay mode, start adding values to it. By darkening and brightening areas, you can start chiselling out the character. Remember that different surfaces will react differently to light. Metal will have very sharp highlights and shadows, while hair and feathers will have a softer transition. The feathers will filter through light, too, and give a fuzzier impression.

07 **Colour the skin** On a new layer set to Overlay you can introduce skin tones. The skin tone can then be adjusted by tweaking the colour balance (Cmd/Ctrl+B) or the hue (Cmd/Ctrl+U).





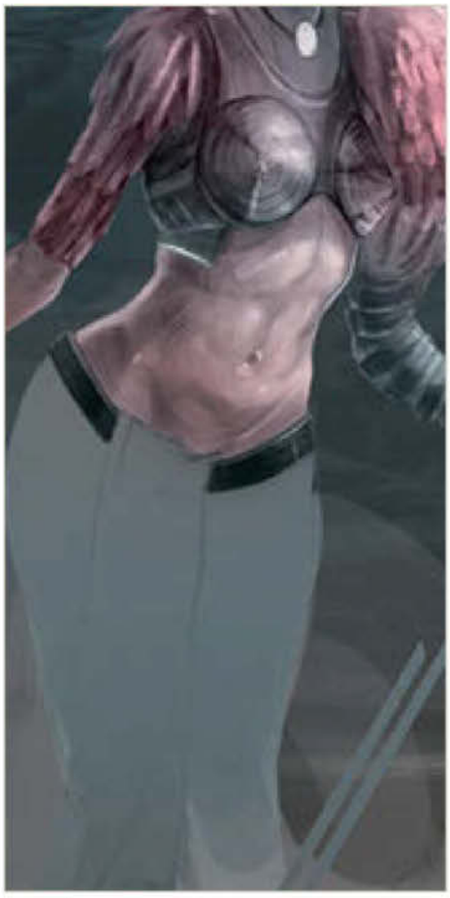
Quick Tip

Your visual memory can act like a library to store information about what things look like. Depending on what you have seen and done in your life, your visual memory will contain different information that you can call upon in your art. Nobody's visual library contains information about every single thing that exists, though, and when you have to illustrate something you might not know much about, research is vital!

08 **More colours** Colours can also be added by painting onto a layer set to Color. Play around with the different layer types to find what works best for you. Don't worry about being too careful when painting the initial colours. Use a fuzzy brush and make the colours bleed into the surrounding areas. Also add a little bit of red blush to the skin. This is especially effective when added to legs, arms and faces.



09 **Colour correction** If the colours look strange against the background, the colour balance might be wrong. Merge the character layers and open the Color Balance dialog (Cmd/Ctrl+B). This adjustment helped to pull the shadows in a colder (bluer) direction to even things out.



10 **Anatomy fix** When something looks wrong, fix it. The character's torso was a little off at this stage, and if you can't put your finger on exactly what it is that isn't working it's time for a research session. A bit of Liquify magic and some more muscle definition improved our goddess.



11 **Contrast and colour** You can use the Color Balance adjustment at any point to further tweak the colours into a bluer tone. You can also add more shading to a layer set to the Multiply mode if needed.

12 Keep painting
Paint details by picking colours that are already present on your canvas with the Eyedropper tool (using the keyboard shortcut I and clicking). At this stage you should avoid introducing completely new hues unless you actually want to recolour something or add emphasis to a specific item. Paint tiny braids in her hair this way with highlights and shadow, and design a spear with a decorative feel to give the impression of a powerful and important character.





13 Cut the skirt If you haven't 100% decided on your character's costume at the sketching stage, don't be afraid to adapt it. The skirt in this design was made shorter, which revealed that the legs were slightly disproportionate. Sometimes last-minute changes can be advantageous!



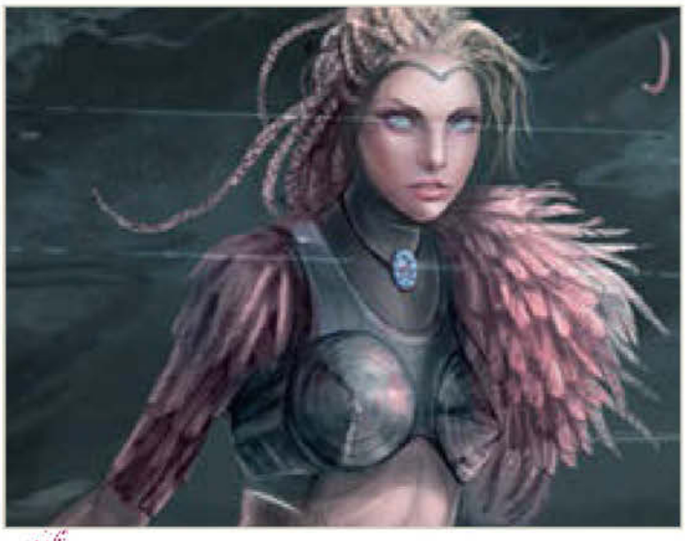
14 Feather detail Detail the feathers on the character's shoulder, using reference images to get the look right. When working with small details like these, it is important not to forget to continually zoom out to get a good view of what you are actually doing in the image.



Quick Tip

The best places to find instant inspiration can be the least expected. Take some time browsing the internet and you will end up finding visual material you never would have thought about specifically searching for. All these things can and will influence your work, and the more diverse your influences are, the more dynamic your art will be.

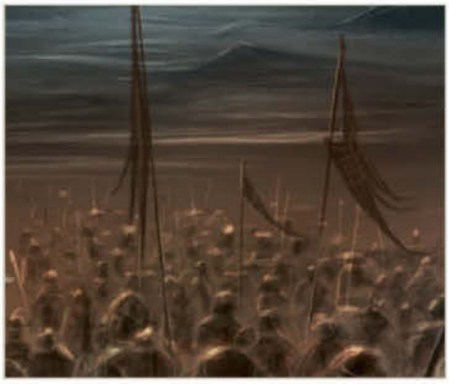
15 Shield design When designing an emblem, it helps to do so in a separate document and then transfer it into your image – especially if the plan is to distort the perspective of the emblem. You can easily distort images with the different transformation options available. In this case the perspective transformation tool (Edit>Transform>Perspective) was used.





16 Adaptation When building up detail or making any changes, you can use the colours that are already available to you in the basic illustration. Colour pick with your Eyedropper and repaint!

17 Start on the army Beneath the cliff, start sketching out the basic shape of a vast army gathering on the field. At this stage, focus on getting a grasp of perspective and mass.



18 Refine the crowd Slowly build up the detail of the army. However, don't let the crowd grab too much attention away from the focal character, just give them enough detail so that the viewer can tell what it is they are looking at. Elements such as spears and flags help to visually communicate a vast, battle-ready army.



19 Smoke and fire
Beacons were added on top of the distant mountains to give a grander scale to the narrative, and torches placed in the hands of some warriors to give the piece more life. On top of this, you can add a layer of soft smoke around the army from their flames to push them back into the painting a little. This could also give the impression of dust kicked up as the army marches forward.



20 Final tweaks
If you think it would benefit the composition, enlarge the character to make her stand out more. Tweak the colours and contrast again and add a texture on top of the final image for a bit of grain. Lighten the piece and it's ready!

Paint a vampire pin-up

The Last Meal 2011 **Photoshop**

> Learn how to create a sexy female vampire in a graveyard

Lili Ibrahim Illustrator

Vampires and their legends have a long and detailed history, making them a joy to research with plenty of information to inspire your artwork.

Countless films, books, paintings and even songs have been influenced by stories about the undead, so it can feel like creating something truly unique in this area is an impossible task, but don't be deterred!

The vampire myths have a past almost as dark as the fictional creature itself. People have been telling stories about vampires since prehistoric times, but it was not until the 18th Century that they got their name in English and cemented their place as a staple of horror fiction. At this time, people across the world actually believed the stories and started vampire hunting, and sadly a lot of innocent people were killed, accused of being vampires.

Although many would agree that Count Dracula is the most famous fictional vampire of all time (although competing with the more recent Cullen family…), we have probably all come across the second stereotype when it comes to vampires. Sexy female vamps, strong women who embody the myth as well as a seductive power are a common trope. Examples of this can be seen in *Buffy the Vampire Slayer*, *Interview with the Vampire*, as well as characters from *Blade*, *Vampirella* and the recent *Dark Shadows*.

The character in this step-by-step guide is a sexy female vampire, sitting on a grave as if she's just emerged. Graveyards are commonly seen in combination with vampires thanks to their spooky atmosphere and their associations with death. The girl is accompanied by her trustworthy – but equally evil – cat. Items such as garlic cloves, a cross and a stake can all be found in the painting – further hinting towards the nature of our character. Crosses and garlic are traditionally seen as vampire kryptonite – so this girl is evidently a tough one.

Working Progress

Build a spooky vampire image



Step 04: Values



Step 08: Composition changes



Step 17: Chisel the gravestones

Source files available

Build your own pin-up with sketches and a value study on the disc



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Artist info

Lili Ibrahim

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Software used **Photoshop**

Lili Ibrahim is a freelance concept artist and illustrator working and living in her London apartment. She is a film and games enthusiast who has recently graduated with a degree in illustration and animation, hoping to bring something exciting to the industry.

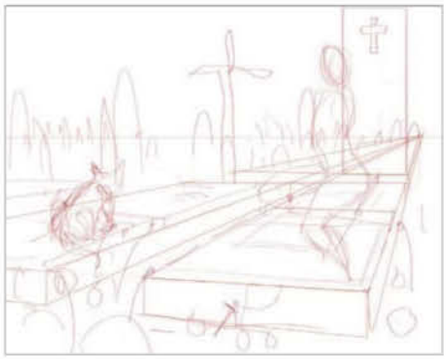


Sketch the scene

Create atmosphere with gruesome details



01 Rough ideas No good painting starts without some planning. Get those ideas down quickly and create a selection of thumbnail compositions and ideas to choose from before you throw yourself into creating the proper artwork.



02 Sketched composition When you have settled on a good idea you can start sketching it out on a bigger scale. This lays the base for your final image, and although it is possible to crop further down the line, it is wise to start working in the dimensions that you want the final piece to have.



03 Clean it up Depending on how loose your sketch is, you may or may not want to clean it up a little for crisper lines. Lower the opacity of the original sketch and draw on top of it on a new layer. Doing this will enable you to look over the lines one more time to make further tweaks and changes.



04 Values By working in greyscale you take control of the values at an early stage in your painting process. When doing your value study, keep in mind that they are affected by perspective and atmosphere. This means that things close to you have stronger contrast, while things further away from you normally have less. The thicker or foggier the air is, the quicker the contrast fades into the background.

05 Colour palette Choose a colour palette for your piece based on your research and the kind of media that you have been inspired by. Instead of a typical nighttime colour scheme of blues and blacks, for example, you might want to go for warmer tones to give a dreamy, alluring feel.



Quick Tip

It can be very useful to keep a mirror on your desk. Sometimes, it is simply easier to pose yourself rather than trying to find a reference image on the internet with the exact stance or angle that you want. Keeping a camera ready is also useful for poses that you can't model and paint at the same time!



06 Tweak the base By now the base for the painting is almost prepared. Spend some time tweaking things that you're not completely satisfied with. For instance, our value study showed up some problems with the tone of her hair – the dark colour was weak. Other details such as the cross necklace and the cat's reflective eyes were too small, so were given a lighter tone to bring them out.



08 Composition changes It's never too late to make changes, even if they're relatively big compositional ones. Adjust the posture of your character, for example, if you feel it isn't working. By making the changes on a separate layer, you can always compare it to the old version by toggling it on and off. It will motivate you when you see that your choice to change it paid off.

09 Render the character Where you start rendering your painting is up to you, but any characters are a good place to start. Warm up your vampire's skin tone ever so slightly by painting some warmer colours on a layer set to Hue. Changing colour is tricky when the palette is already settled, so be careful with making too big a change.



07 Start painting Now you can start painting details. Merge all of your layers into a flat image and paint on a new layer on top of this base. Merge this layer down, too, as soon as you are happy with the changes you have made. Start work on the gravestones and add some placeholders for what will later become flowers.



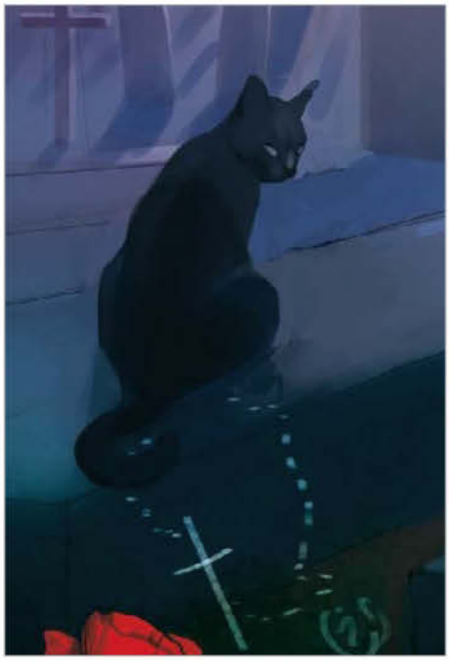
Quick Tip

Repetition is a good tool to make something busy but not overwhelming. The gravestones in the background make the environment look complicated and realistic without stealing the viewer's eye away from the focal point.



10 Paint the flowers Using pictures of poppies as a reference, switch off the layer with the red placeholders and start painting the flowers properly. When painting something you are not familiar with, reference is very important or you risk ending up with a result that is generic, looks unreal or is incorrect.

11 The cat Tidy some of the details around the gravestone, defining the cobwebs with a thinner brush and working on the vampire's arm. Render the silhouette of the cat more solidly with a watercolour brush or one set to Wet Edges for a nice effect.





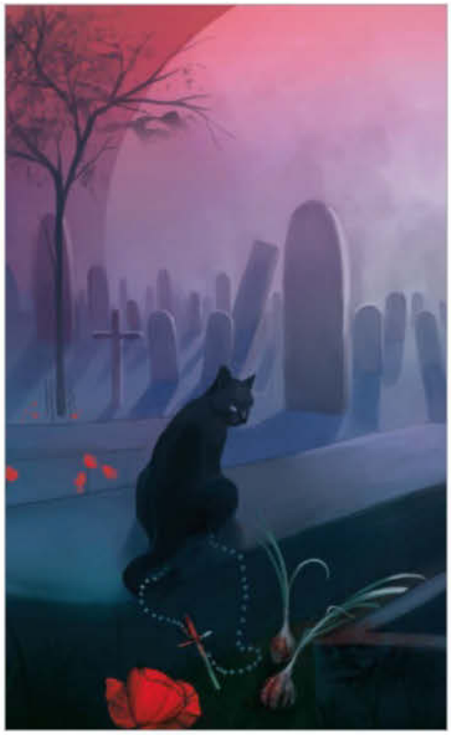
12 Design the hair The original concept for this piece was for the hair to turn into a spider web as it stretched across the scene. Making her hair white is therefore an important aspect. Start painting little webs connecting your vampire lady to the surrounding gravestones.



13 Details on the ground Next to the cat in this composition is a selection of items. When painting little objects on a big canvas, it is easy to get carried away with minor details. Make it a habit to zoom out every once in a while just to remind yourself of how much will actually be seen in the final product. There is no point in wasting time on something that won't be visible!



14 More red details Add more poppies to the background to balance out the ones in the foreground. Add in subtle elements to unite the piece, for example stains of blood on both the cross and garlic, as well as on the girl. Keep this final touch small so as not to distract or overpower.



15 Add to the background The background has been left very minimal in this piece. To make the image feel a bit busier without detracting from the focal point, add a couple of trees. This gives the scene a frame and makes it appear secluded from the outside world.



16 The stake Place the stake into your scene. Keep the colours fairly saturated, as it is a foreground object, and use strong highlights on the fingers of the hand that is holding it. This creates a contrast between the light and dark tones, and draws the eye.

17 Chisel the gravestones To make the gravestones more readable, add plaques at the base and some words behind her. Give the two graves closest to the viewer inscriptions for that added touch of detail. Paint shadows onto the graves in the background as well to show the direction of the moonlight.



Quick Tip

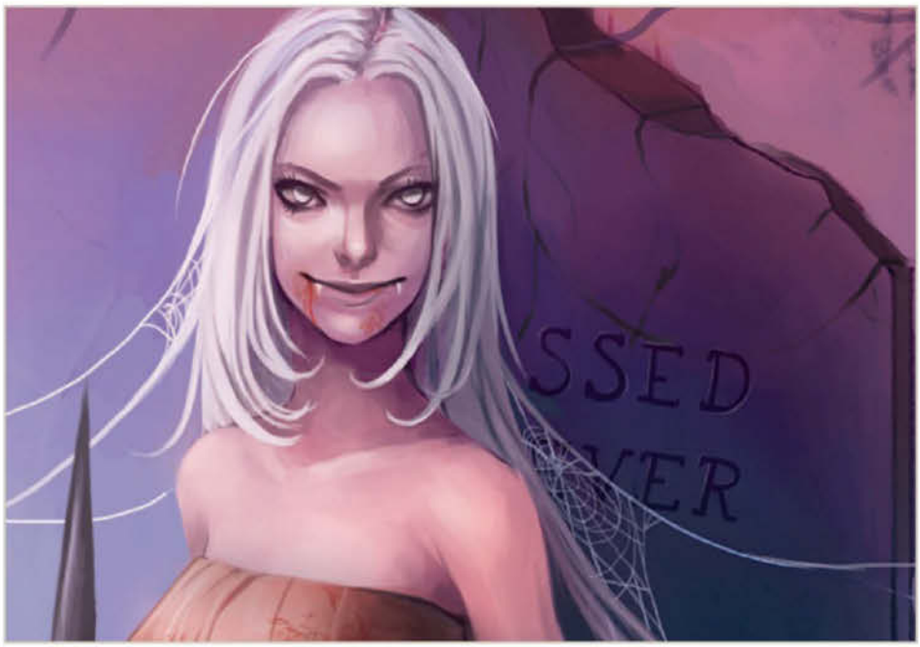
We all have favourite things to paint, but there is a risk involved with lingering too long on the same part of your painting. Try to continuously move around the painting and paint a little bit of everything at each stage. Zoom out and you will spot something that needs to be worked on. If you finish your favourite parts first, you will lose your motivation to finish the rest.



18 Final touches
Go over the painting one final time and adjust any other little things that have been bothering you or have now noticed. Add some particles flying in the wind to make the scene feel alive and to give it a more dynamic edge.



19 Use filters When your painting is finished and you are happy with your details, you can add filters to the top. An old paper texture can give a nice quality and a grainy texture can make it feel less painterly. This is also an opportunity for some very final tweaks to overall colour and contrast. Tweak the hues with a Color Balance adjustment layer and the values with Levels.



20 Fangs for the memory One of the most iconic features of vampires is, of course, their fangs. If you have ever worn a brace you'll know that larger-than-normal canines sit in awkward positions in the jaw, much higher and further apart than normal teeth. Use this to emphasise your vamp's grin!

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Ashley Walters

Personal portfolio site
www.ashleywalters.net
Country **US**
Software used **Photoshop**
Ashley Walters is an illustrator with a love of all things fantasy and sci-fi. She currently works as a freelance artist and spends her spare time being a mum to three kids and watching *Doctor Who*.

Source files available

Included on the disc, you will find the Photoshop file of the illustration as well as corresponding texture and pattern files to help you replicate the steps listed in the tutorial

Paint a Steampunk-inspired portrait

Steampunk portrait **Photoshop**

> Once you understand how light interacts with your subject matter, the possibilities are limitless
>
> **Ashley Walters** Illustrator

The following tutorial is for those who wish to learn the basics of digital painting and discover tips and tricks to add texture, luminescence and mystery to illustrations with simple Photoshop methods.

Learn to sketch non-existent objects using basic perspective and visualise lighting so that you can add any element to your painting regardless of reference. Discover the difference between form shadow and cast shadow and how to effectively render both.

Once you understand how light interacts with your subject matter, the possibilities are limitless.

Learn how to pick compelling colours to establish mood, to paint different materials such as cloth, metal, and skin, including how to apply textures and patterns realistically using filters. Finally, discover the secret to creating glow effects and glares using various layer blending modes. From start to finish, you will learn how to employ Photoshop effectively to create a compelling painting.

Working Progress

From start to finish



Progress 1: Sketch the outline



Progress 2: Paint the image



Progress 3: Add effects

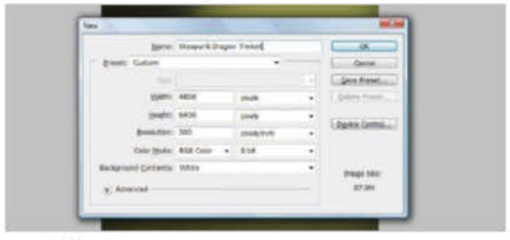


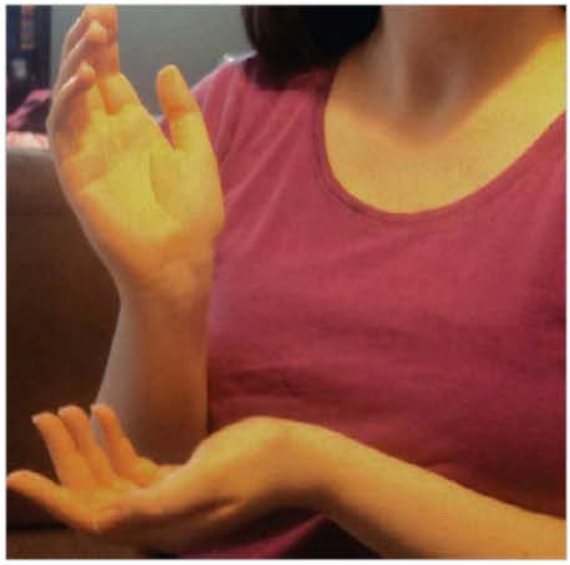
Back to basics

Decide the aim of the piece and choose your reference



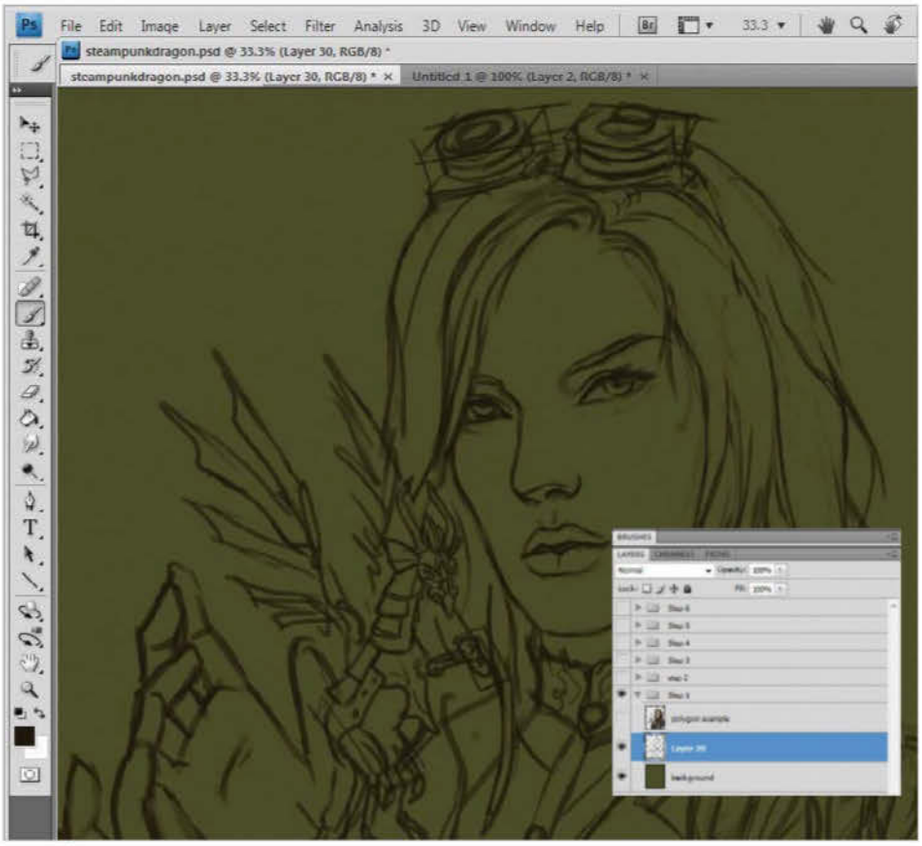
01 Visualise your image Before starting, visualise what you want to accomplish. In this case, the goal is to paint a Steampunk piece which integrates portraiture with mechanical elements. It's meant to be a dark, atmospheric image with lush colours to invoke mystery and interest. Remember to download the resources before you start.



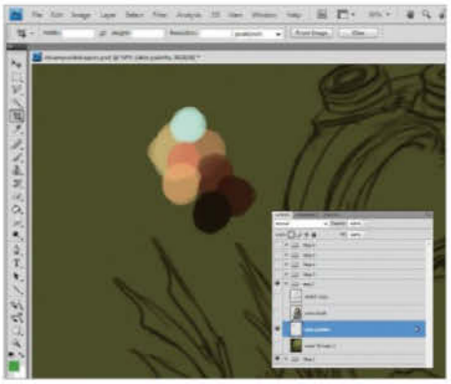


02 Gather reference Paintings should be unrecognisable from reference unless the material belongs to you, so take liberties in deviating from online sources. The easiest way to obtain reference is to take photos yourself, but be sure that all of your images have the same light source or be prepared to paint them differently to how they appear.

03 Start a new document Begin by creating a new document (Cmd/Ctrl+N). Set the image dimensions to 4800px by 6400px at 300ppi. Decide between RGB or CMYK for your colour mode (RGB can achieve richer colours while CMYK is useful for printing). Fill it with a warm green tone in the middle-range of value (not too light and not too dark).



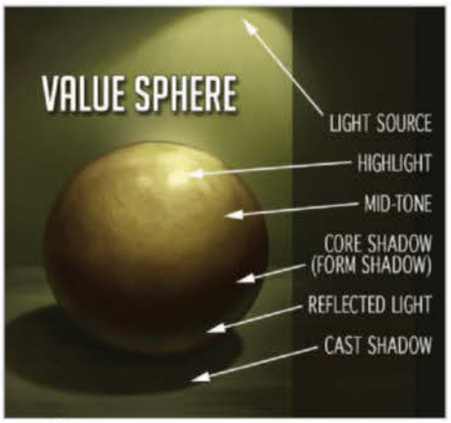
04 Sketch the outline Create a new layer named 'Sketch' (Layer>New>Layer). When sketching your outline, think about the focal point to keep the eye moving within the image. Use your reference as a rough guide as you freehand the sketch using a dark burgundy colour. Keep in mind perspective as you draw objects without a reference as a guide, like the dragon and goggles. It helps to sometimes draw boxes in perspective with the rest of the piece and then chisel away at the objects inside to create angular shapes before finally rounding off the details.



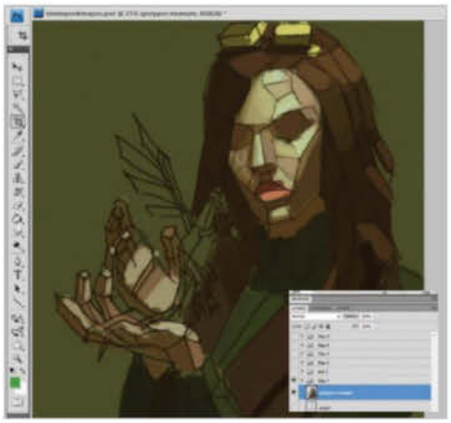
05 Pick colours Colour defines the mood of a piece. The key to having lush colours is finding a balance between rich and dull. Too bright and your image looks contrived and over-the-top. Too dull and your image looks washed out. Lighter colours should be less saturated and darker colours more saturated. On a new layer, pick a basic flesh colour, scribble and repeat, increasing the saturation as you go darker. To help the image pop, add subtle oranges and warm pinks for the eyes and cheeks. Pale cyan works as a highlight colour to contrast against warm shadows.

Quick Tip

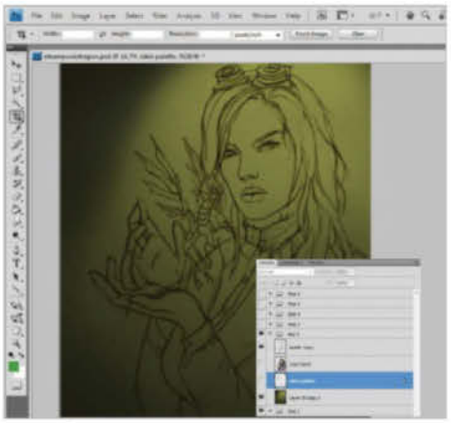
Paint separate elements on their own layers so that you can lock the transparency and paint each one without going over the edges. To do this, choose the corresponding layer in the Layers palette and click the checkered square icon at the top next to the word 'Lock'.



06 Understanding light Form shadow (or core shadow) creates the illusion of form and gives objects depth. It occurs when light fails to completely wrap around the form of something and is a gradual transition from light to shadow, with softer edges (like the cheekbone, which at first catches the light and then curves downward into shadow). Cast shadow occurs when something (like the nose, for example), blocks the light, throwing areas below into darkness. It tends to have sharper edges.



07 Visualise where light falls When creating an object without reference, it is vital to be able to picture in your mind where the shadow would fall if you could see it. Sometimes it helps to picture the subject matter as if it were made up of several small geometric polygons. Look at each surface plane and ask yourself if the angle would catch the light or not, then translate that into your painting. Don't forget to add in cast shadows of made-up elements to ground the work and give it a cohesive feel.

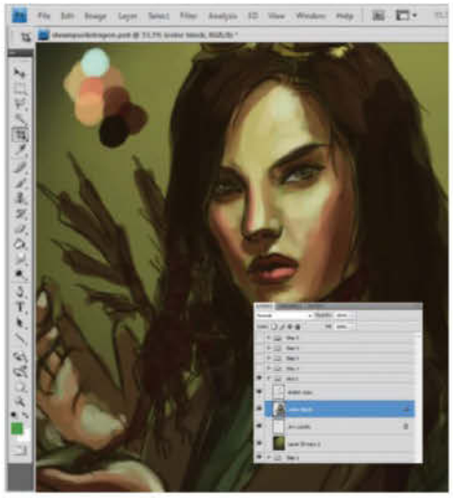


08 Create the Background Create the illusion of a light source just off canvas using a hard round brush choosing a pale yellow hue. Sweep the brush downward to emulate the glowing effect of light on a wall. Picking a dark green colour, sweep the same brush along the edges of the canvas to push the corners into darkness. Blend the colours with a soft round brush as necessary. Note that the light will be brighter here and the change between values will be more drastic near the top where the light is closest to the wall.

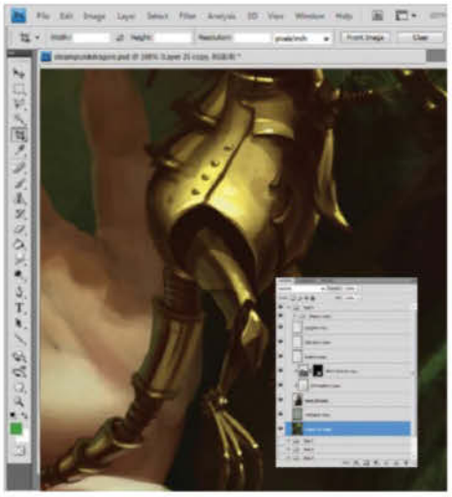


Down to detail

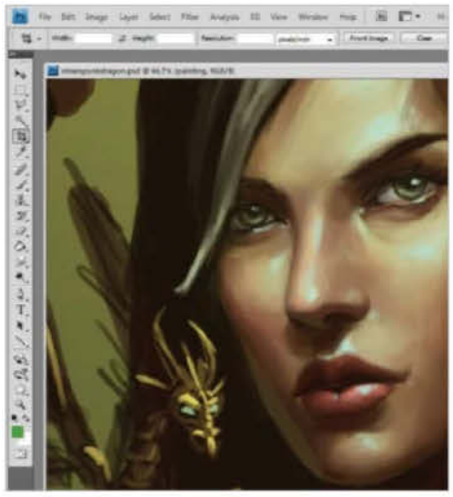
Apply paint, add texture and create atmospheric effects



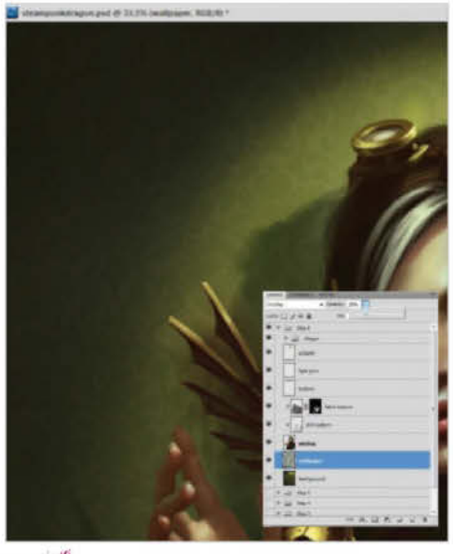
09 Start painting On a layer beneath the sketch, paint the skin using a default round brush. Keep your Opacity and Flow at 100%, and rely on the sensitivity of your tablet to blend the colours. Make a clear delineation between light and shadow. As you continue to refine, add the transitions between the two values using a soft brush when needed. Use your highlights sparingly for the greatest effect. Merge your Sketch layer and your painting layer and gently paint out the sketch until all the lines are gone.



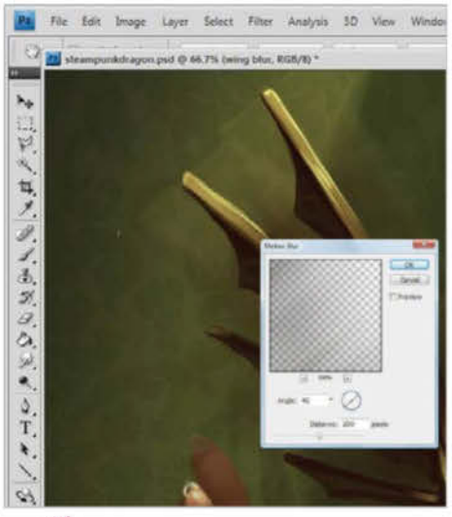
10 Shiny versus dull When painting matte surfaces like the cotton vest, do not paint highlights. Only two values are needed for these – mid-tone and shadow – with gradual transitions between the two on occasion. When painting reflective surfaces like silk or brass, however, exaggerate the drastic change in value by using sharp specular highlights in areas where the light would logically fall and by using contrasting strokes. Remember to incorporate surrounding colours, as metal is highly reflective.



11 Painting skin and hair When painting skin, find a balance between matte and shiny. The skin will have sharper and brighter highlights if the face is wet (like around the eyes) or where oils of the skin reflect light (like on the nose and inner tear duct). If you haven't already, add these specular highlights to create luminescence. When painting hair, start by putting in the darkest values first, and then add the midtones using a chunky round brush. Gradually reduce the size of the brush until you are painting individual strands.



12 Add texture and pattern Texture and pattern add realism to your work when done correctly. To create the illusion of wallpaper, paste a damask pattern on a new layer and set the layer Blend Mode to Overlay from the drop-down menu on the Layers palette. Reduce the opacity of the layer so that the pattern is not overbearing but still present. You don't want your image to be too busy or distract viewers from the figure in the foreground.



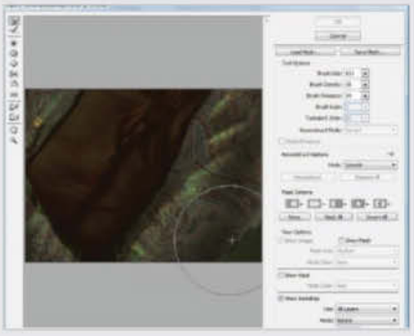
13 Add atmospheric effects The last step is to add subtle atmospheric effects. Create a glare on the highlight of the goggles using a soft round brush in a pale yellow colour on low opacity. For the blur on the dragon wings, copy the wings onto a new layer underneath and use the Motion Blur filter. Set the angle to 40 degrees and the distance to 200px. Use a smoke brush for the dragon steam. To make it glow, on a new layer use a soft green brush set to Hard Light.

More on pattern

Pattern should conform to the form beneath. To create the effect of the pattern wrapping around the silk shirt, paste the pattern on a new layer above the painting. Create a quick mask over your painting by clicking between the two layers on the Layers palette and pressing Opt/Alt.

Set the layer Blend Mode to Overlay and reduce the Opacity to 30%. Go to the Liquify filter (Filter>Liquify), and with the painting layer visible beneath your pattern, use the Forward Warp tool (W) to push the pattern downward around the edges of the arm.

Do the same for the fabric texture above the vest area.




After
Before

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Drew Lundquist

Personal portfolio site **www.drewlundquist.com**
Country **US**
Software used **Photoshop**
A recent graduate with a bachelor's degree in photography, Drew Lundquist is one of the premier artists at creative support studio Elevendy Inc. in California.

Working Progress

From gloomy to glistening



Progress 1: Getting started



Progress 2: Summon glow



Progress 3: Final

Create an ice queen heroine

Source files available

On the disc you'll find a selection of the supporting images used to create atmosphere, the model start image and a PSD file to speed up your process

Ice Queen **Photoshop**

"Summon a glow effect and engulf a model within a glossy ice texture"
Drew Lundquist Photographer

The following tutorial is not for the faint of heart, and is intended for those who are obsessed with striving towards Photoshop euphoria. Assuming those following along have at least a moderate understanding of Photoshop, we'll attempt to be direct and thorough without being redundant or repeating ourselves.

Knowing where things are within the program, as well as having basic painting and masking skills, will aid you on the metaphorical road ahead. Some of these effects may appear intimidating initially, but fret not, for those who persevere through the thick and frustrating times will always take away more than those who are easily shaken. Following our guide will support you.

In short, you will discover how to summon a glow effect from nothing but variations of a single image, engulf a model within a glossy ice texture, and ponder not the 'right' way but a 'different' way to organise layers and groups. We'll also throw out some tips that you may already know, but if you don't, they could open up a world free of rules that will allow you to maximise your ability to create iconic work at the level few have roamed.



Begin the transformation

Download the model stock image and set the colourcast



01 Getting started Download the file 'model_cutout.psd' from blog.advancedphotoshop.co.uk/tutorial-files, which has the base model already cut out from her background. Keep anything you add to your model in a folder titled 'Ice Queen (Cutout)'; that way, everything you add to the model will automatically be masked to the cutout, eliminating the need for clipping masks.

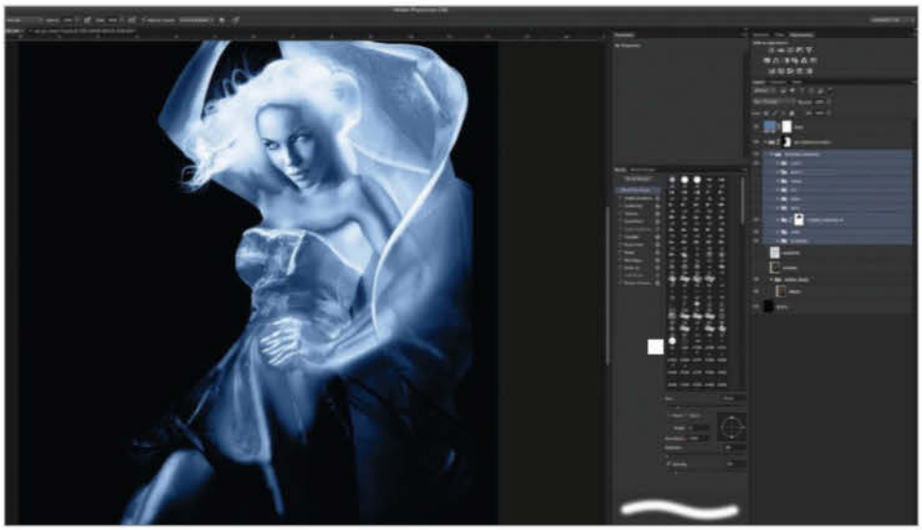


02 Set the colourcast Create a new Fill Layer (Layer>New Fill Layer>Solid Color) and title the layer 'Blue'. Change the blending mode to Color, hit OK and select your colour, or alternatively enter #5b7ca4 and hit OK. You'll want this colourcast to affect the entire image, so move it above the cutout group mask to the top of the layer menu.



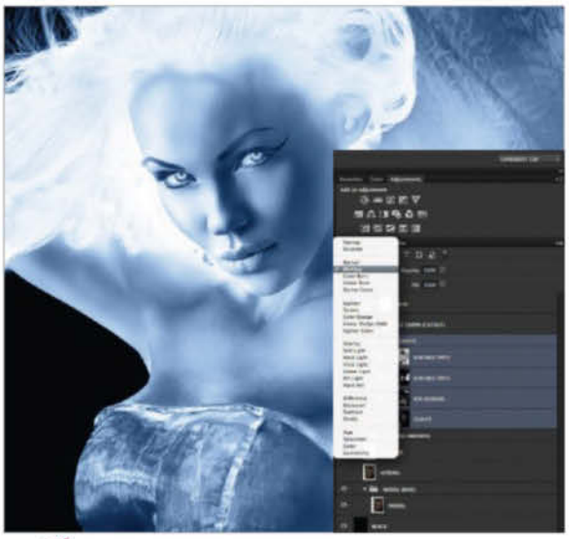
03 Duplicate the base layer Duplicate (Cmd/Ctrl+J) the 'Model (Base)' group and flatten it (Cmd/Ctrl+E), then duplicate the copy layer and invert it (Cmd/Ctrl+I). Title each respective layer 'Normal' and 'Inverted'. These two will be your go-to layers, as you'll duplicate them many times, but for now, turn the layer visibility on each of them off.

04 Blending madness To create the model's glow, you're going to use many versions of the two layers you just created. Within a new group titled 'Blending Madness', duplicate a mixture of the Normal and Inverted layers of the model as you see fit. Using layer masks, vary the brush Size and Hardness to blend or paint in areas of the model that you'd like to appear glowing using the Inverted model layer, or where you'd like to maintain highlights and shadows using the Normal model layer.





05 Experiment with blending modes You should now have a cluster of Model (Base) layers, both inverted and not, to achieve that perfect glow. It'll need a lot of tweaking and refining to reveal that perfect combination of blending modes that ultimately make the model feel incandescent. Each mode acts differently, exaggerating or excluding some tones while maintaining others. This is a major experimentation phase. If you're really having trouble with it, move past this step and continue from the file 'blending_madness.psd'.



06 Multiply and Screen You're now going to adjust the highlights and shadows of the model. Create a folder above your Blending Madness folder, add a Black & White adjustment layer within it and set the blending mode to Multiply. Now, with the layer mask on your adjustment layer selected, hit Cmd/Ctrl+I to invert the mask, making the Multiply effect invisible. Paint in the areas you'd like to see darkened, varying in brush opacity or fill. To lighten, repeat this step, but instead of Multiply set your blending mode to Screen.

Quick Tip

Using multiple texture layers scaled and warped differently can add believability to an image and be a deterrent against flat surfaces. Using Perspective and Distort to mimic the surface you're texturing can really sell some depth. No one's fooled when one flat rock texture is over the model's entire face.

07 Skin frost Now it's time to grab the frost texture. You can use image #5179760 from **www.depositphotos.com**, which will work perfectly. Be sure to select 'Advanced Search' on the site or it won't show up. Position the texture over the model's chest and set the blending mode to Overlay. Use a layer mask to hide and feather the edges of the texture image so there aren't any harsh lines (seams) all over the image; you want seamless transitions between textures. Group this texture and title it 'Skin Frost Texture'.



09 Step back and admire your work Getting this far is not easy considering how much experimentation this image requires, so pat yourself on the back, stand up, stretch and then buckle down because you're not out of the woods yet. Let's take a look at what's been done so far…



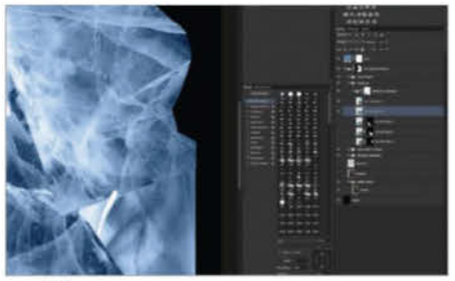
01 ADD GLOW Experiment with normal and inverted layers using blending modes to create alternate lighting and glow

02 UP THE CONTRAST Use non-destructive adjustment layers to paint in highlights and shadows to further emphasise drama

03 TEXTURE THE SKIN Overlay snow textures on the skin to manipulate the model into looking like a cold-hearted… princess



08 Shape the skin texture You'll need to duplicate and reuse this texture all over the model's skin using at least one texture image over each feature, ie one layer covers an arm, one her face, and so on. Use Transform (Cmd/Ctrl+T) to resize texture layers and place them on different parts of her skin as needed. Use Warp to mimic areas of the skin that curve, like the model's shoulder, and a layer mask to keep texture contained to the model's skin and off things like her dress.



10 Lay down some ice Similar to steps 9 and 10, you will need to add extra texture the model's dress to make it appear as though she's engulfed in ice. Go back to **depositphotos.com**, grab image #5179582 and drop it into your composition. Use the Transform tool to manipulate multiple duplicates of this texture to cover the entirety of the model's dress and lower exposed leg.

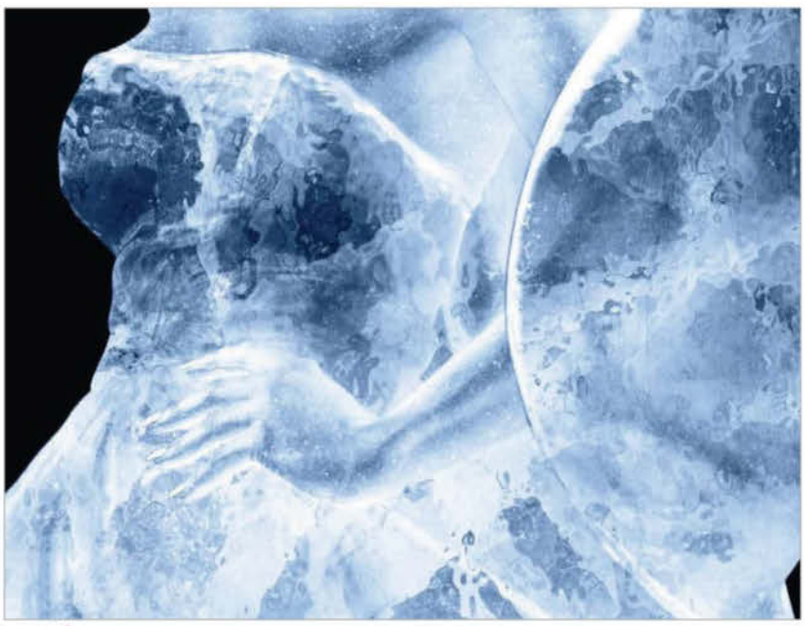


11 Divide the ice into sections Divide chunks of ice into sections of the dress to give the end result dimension so it doesn't look so flat. Each section of the dress should be its own layer. Use masks to isolate and shape each chunk on the dress. Set each ice texture layer to Screen or Overlay. With the toning you did before (based on how dark your image is), blending modes may vary, so feel free to experiment.

Quick Tip Layer organisation is key when working with so many duplicates of the same layer, or just an extensive amount of layers in general. It will simplify your whole experience in Photoshop if you use a group mask as a cutout rather than applying 16 clipping masks to one layer.



12 Duplicate and flatten Once you have your dress's ice textures all set, group all those layers together. Title the group 'Dress Ice Original', duplicate it and then flatten it. It'll look different initially, but that's okay. Create a new group with the layer you just created and name this group 'Dress Ice'. Keep the original group folder in case you'd like to go back and tweak your ice, but turn the visibility of that group off.



14 Blend ice texture Change the blending modes of all three layers, from bottom to top, to Linear Burn, Soft Light and Hard Light. Set the Linear Burn layer to 80% Opacity, add a layer mask and invert it, effectively hiding the layer, at which point the ice effect will get a little brighter. Paint in where necessary to darken the ice around the dress. Play with adding more ice texture or revisiting your Dress Ice Original group.



13 Create the glass texture Once you have grouped the dress layers together, you can add a glass texture to them. With the current single layer in your Dress Ice group, go to Filter>Filter Gallery and under the Distort tab, select Glass. Set the Distortion to 20, Smoothness to 15, Texture to Frosted and Scaling to 200%, then hit OK. Duplicate that layer twice so that you have three layers in total in your Dress Ice group.



15 Create the ice throne Head back over to **depositphotos.com**, purchase image #13470132 and drop it into your composition above the Ice Queen (Cutout) group but below the Blue layer. Cut the bottom of the iceberg out, title the layer 'Bottom Ice' and place it in its own group also titled 'Bottom Ice'. Use the Transform tool to scale and rotate it 180 degrees. Place it at the bottom of your composition, just under the model and apply the same Filter Gallery effect from step 13 to this layer.



16 Mask the model to the throne You now need to fuse the ice queen to her throne. Duplicate the Bottom Ice layer. Change the blending mode of the top one to Hard Light and the bottom to Lighten. Select the Ice Queen (Cutout) and group that group. Add a mask to the new group, right above the old one. Use your Brush tool with a super soft edge and paint away any hard edges you see. Do the same with the Bottom Ice layer – paint away the top of the ice so that the dress and iceberg blend together.



17 Add ice spikes Snag image #8159693 from Depositphotos and drag it in above the Bottom Ice group, into its own group titled 'Ice Spikes'. Cut the ice from the sky. Shape and place the layer just above the Bottom Ice group, slightly lower on the model, surrounding her with ice. Duplicate it three times. From bottom to top, change the blending modes to Pin Light, Color Burn and Hard Light with an inverted black mask, and leave the top layer at Normal with an inverted black mask. Paint in Normal and Hard Light layers.



18 Add some atmosphere Grab the 'snow' and 'fog' images provided in the tutorial files and pull them in as needed. Keep most of it behind (below) your Ice Queen (Cutout) layer and only some snow layers in front (avoid covering her face) to give the image depth. Change all these layers to Screen. You'll still have to mask the edges of each image with a soft brush to avoid those 'seams'. Vary these assets in size with the Transform tool.



19 Final adjustments The last thing to do with every image is to tone-manage over everything the same way you did at the beginning of this tutorial. Create a group just under the Blue layer and title it 'Overall Adjustments.' In here, create two Black & White adjustment layers and again set them to Multiply and Screen and invert the layer mask (black). Paint the tones in with a soft brush on each layer. Multiply will darken, Screen will lighten. Add as many as you need.

Blending modes



Combining blending modes can become a tedious process. There's typically one blending mode that will achieve what you're looking for, but with the amount of options at hand, it can be difficult to find. Using adjustment layers combined with various blending modes can have the perfect effect on your image, while the inverse can destroy your tones entirely. For future use, it's wise to become familiar with what each mode does to an image as well as what each does to each adjustment layer.

Behind the scenes

3D artists explain the techniques behind their amazing artwork

Artist info

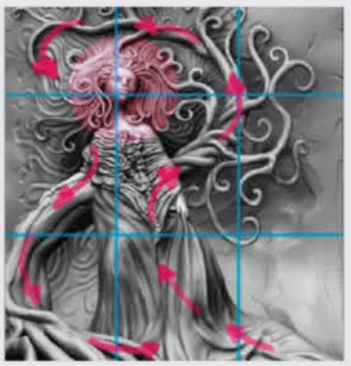


Andrzej Kuziola

Personal portfolio site **www.kuziola.com**
Country **Edinburgh, UK**
Software used **ZBrush, Photoshop**
Andrzej Kuziola specialises mainly in character creation, from concept to render, and detailed 3D model creation

Concept

The idea behind this illustration is to create a unique fantasy character – I've decided to concept a female spirit of a tree. I want to achieve a very sculptural, stylised look to the image, inspired greatly by ancient Greek mythological character sculptures.



Sculpt fabrics for fantasy characters

Dryad – Spirit of a Tree 2012 **Photoshop, ZBrush**

"The goal of this image was to create a stylised, sculptural, fantasy character with a focus on showcasing the dress folds"

Andrzej Kuziola Illustrator

In this tutorial we will explain the design and creation process of a fantasy character showcasing the features in ZBrush. We'll explore various ZBrush tools and show how helpful they are to visualise ideas and achieve great effects. ZBrush gives the freedom of creation in any workflow, enabling you to experiment and visualise ideas.

This tutorial will explain how to design and create a character from scratch, showing important considerations along the way while explaining the workflow and various techniques used. We will focus mainly on sculpting the fabric of the dress, the character's hair and some stylised tree branches to finish, but also show you how to create the body and establish composition.

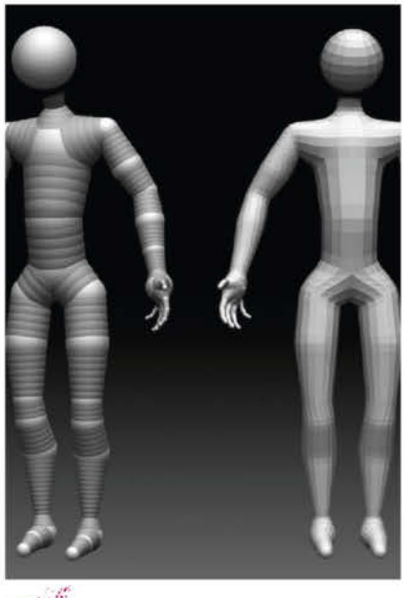


Create the body with ZSpheres

Let's begin by creating the character in a neutral pose

Model the whole body

I've chosen to create whole body anatomy – even though most of it will be covered with cloth – for two reasons. The first is so I can reuse the model in my future projects. Keeping a repository of base meshes and models gives a huge advantage when a deadline is short and you don't have enough time to create something from scratch. The second reason for creating the whole body is that the clothing process is much easier with body armature underneath. Besides these, it's always good to practise sculpting human anatomy when you have the opportunity.



01 Establish your base mesh Using ZSpheres, create an initial armature and block in the shape of the character. In these early stages we won't draw ZSpheres in place of the eyes and mouth. We'll focus on proportions, as this will give us more design freedom in the later stages. When happy with the result, change the rig to Adaptive Skin, then press the Make Polymesh3D button.



02 Sculpt the body Modify the shape of the mesh with the Move Topological brush and start defining masses with the Clay, Clay Tubes, Simple and Smooth brushes. Work gradually from the lower subdivisions to the higher levels, subdividing the mesh when necessary. Focus mainly on the head and hands, because the rest of the body will be covered with clothes. We're creating a stylised character so change proportions by exaggerating the head and elongating the limbs.

03 Face detail Switch the model to a high subdivision level, sketch the shape of eyes and lips with the Pinch brush. Create eye sockets with the Clay brush and shape an interior with the Smooth brush. To sharpen eyelid edges use the Pinch brush with a very small Draw Size. To create eyeballs, append a sphere as a SubTool, adjust its size, position and then mirror it to the second eye socket. With the character base mesh active, use the ZProject brush on the eyeballs. We've now got spheres projected into the eye sockets, so we are able to delete the eye SubTools





Design and composition

Establish composition and block general forms for further development



04 Pose the character Pose the character with the Transpose tool and then fix deformations with the Move Topology, Clay and Smooth brushes. We don't need to adjust body distortions in some areas due to the fact that they will be covered with a dress, but we've done it for the purpose of the tutorial. We want to create a neutral, balanced and relaxed pose. This is a framework for the cloth anchor points and will help us establish interactions between the body and the clothes.



05 The dress base To create the base for a dress use DynaMesh. We want a mesh that matches the shape of the legs as much as possible to help us establish interaction between the fabric and the body later. First, duplicate the character, then extract the bottom part of the mesh by partially hiding it with Cmd/Ctrl+Shift, the Delete Hidden and Close Holes options. Convert it to DynaMesh and reshape it with the Move Elastic brush. For smaller areas, use the Move Topological brush. Use the Standard brush with a large Draw Size to sketch the direction of the folds.

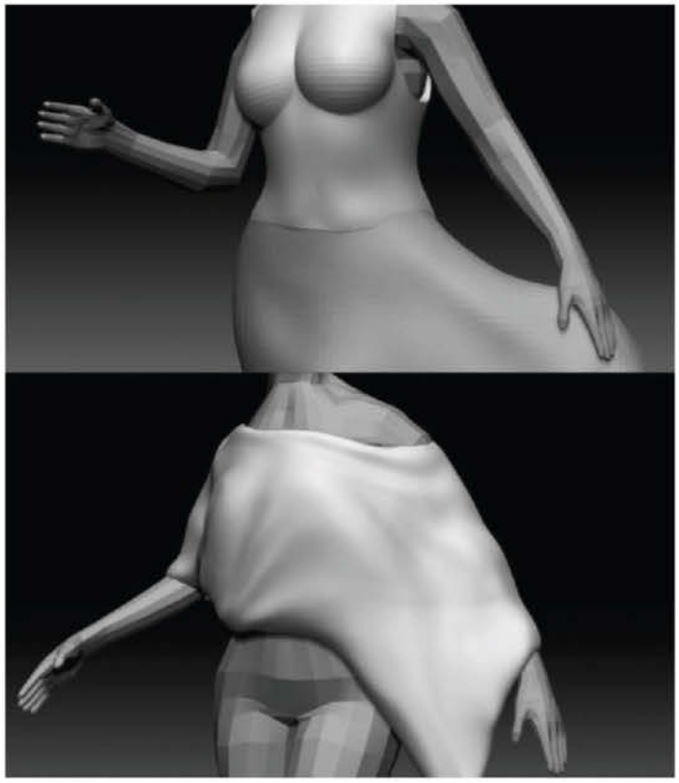


06 Refine the dress Activate the DynaMesh function by clicking its button. This creates a new uniform topology with the density defined by the Resolution slider. Always start with a lower resolution and then adjust it to achieve the desired result. Each time polygons become stretched after adjustments to the mesh, recalculate DynaMesh by hitting the Cmd/Ctrl key and dragging the cursor onto an empty canvas.

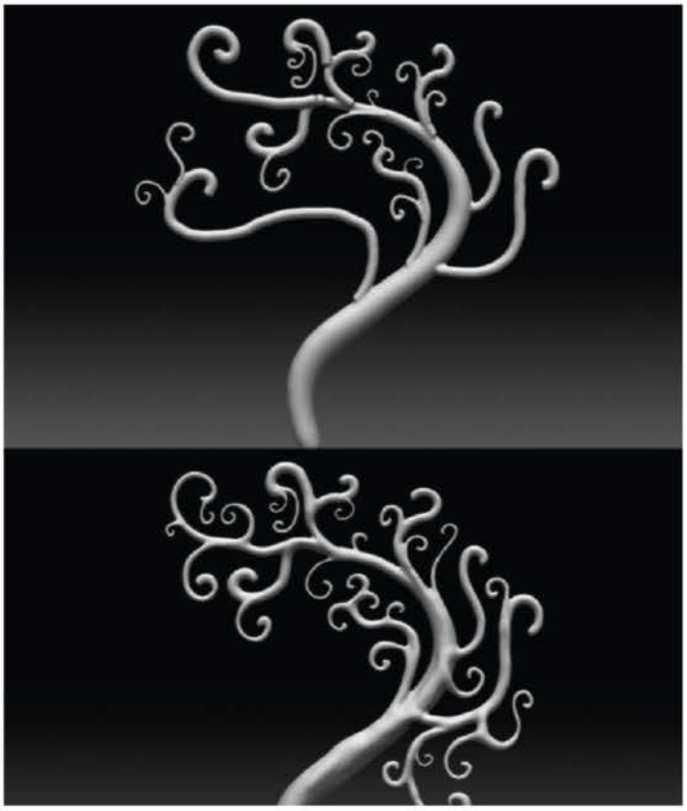
Principles of good design

There are a few golden rules that you need to follow if you want to create a really impressive illustration. First of all you need an interesting focal point to pull in the viewer's eye. You also need to design and place elements in your image in such a way that the viewer's eye will flow around the various details. Creating rhythm and variety in your image to keep it balanced is important. Always think about positive and negative space, and also about the relationship of light and dark.

"We want a mesh that matches the shape of the legs as much as possible. This will help us establish interaction between the fabric and the body later"



07 Move to the top To create the top of the dress we'll use DynaMesh again, but in a slightly different way than previously. Mask the area that you want to use for a new SubTool. Go to SubTool>Extract, adjust Thickness and choose Accept Extraction. This is a good way to create a mesh around a complex shape. Now start to reshape a new mesh, using the Move Elastic, Move Topological and Standard brushes to add volume and block large folds. Remember that DynaMesh needs some thickness. When you get artefacts after re-calculation, undo the action and work on the area with the Inflate brush.



08 Design the tree Create a curved tree trunk with ZSpheres, adjust its shape with the Move Elastic brush, then transfer it to DynaMesh and start adding branches with the Curve Multi Tube brush. This is a great tool for elongated, tentacle-like structures. Re-calculate the mesh often and also use the Inflate, Smooth, Move Topological and SnakeHook brushes. This sketch-like workflow is a good way to create designs and develop ideas straight in 3D without an initial sketch.



09 Create the background Now we'll add a background that will play two roles. First it will show the final image proportions that will consequently help establish an effective composition. We're also going to use the background plane as a basis for the hair – but first we need to add some dimensionality to it. Use the Move Elastic brush to create a recess behind the character, then move a part behind the head towards it and the bottom edge towards the viewer to create some ground. After that, sculpt the whole plane with the Clay Tubes brush, then equalise it roughly with the TrimDynamic brush and Morph Target.



10 Sculpt the hair Now we can start sculpting the hair with a modified Slash 2 brush. Sculpt the hair strands with loose and smooth strokes on a separate layer. Our goal is to create an effect of hair filling the background and turning into it. We also want the hair to be tangled with the branches. At the end, decrease the layer's intensity and gradually work with the Morph brush to create a smooth transition between the strands and the background material. For the loose hair strands, append a sphere and move it to the head area, also using the DynaMesh and Curve Multi Tube brushes. After that, flatten the strands with the TrimDynamic brush and finish with the Standard brush with Alpha 38 and Lazy Mouse options turned on.

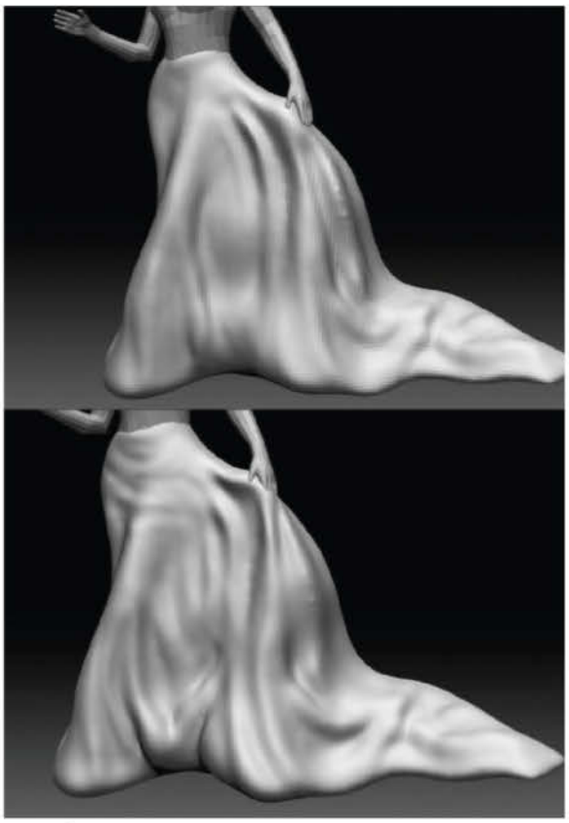


Add the fine details

Create a winding tree and realistic cloth elements



11 Detail the tree Go back to the tree and develop it further. Use the Curve Multi Tube brush to add roots and vine-like structures. The Draw Size determines the diameter of tubes created by the brush, so work here with a smaller size. When a tube is painted you can adjust its location and shape. It's possible to draw multiple tubes at once but it's handy to update DynaMesh after each added tube. Also increase the DynaMesh Density to keep all the new details. When you're happy with the form of the tree, quit DynaMesh and start detailing with the Clay, Clay Tubes, TrimDynamic and Dam_Standard brushes.



12 Add some wrinkles Start sculpting wrinkles and folds on the bottom part of the dress. Begin working with the Standard brush without any Alpha loaded and with Lazy Mouse mode turned on. Begin to add volume with the Inflate brush, using it lightly with low pressure. Also adjust the brush's Gravity Strength and start using Alpha 38 for the finer wrinkles. Work with smooth, loose brush movements, relying on your own intuition and experience. During this process, smooth and sculpt again until you get the shapes you want. You can also switch between ZAdd and ZSub modes.

Crinkle and fold effects

To create believable wrinkles or folds you need to keep in mind a few factors such as the interactions of folds and the forces generating wrinkles like kinetic energy and gravity. You need to know where to place anchor points – areas of retention on a body – where wrinkle systems will originate. I highly recommend the book Dynamic Wrinkles and Drapery by Burne Hogarth, where you can find all this information. It's also a useful source for great references.





13 Refine the curls Now move to the top part of the sculpt. Initially the workflow and brushes are the same as in the previous part, so create some horizontal folds with the Standard brush. Mainly use Alpha 38 here and turn Gravity on and off in the Brush>Depth menu to check your work. To create vertical patterns, use the Clay brush and then develop it further with the same Slash 2 brush used earlier. Refine the shape of the curls with the Move Topological brush. Add some more volume to the horizontal folds using the Inflate brush.



Finishing touches

Finalise the model and render it for illustration





14 Complete the dress Add more volume to the folds with the Inflate brush and pull down some parts that are lacking in gravity. Fine-tune the creases with the Standard brush and Alpha 38, then use the same brush with a very small Draw Size to add some texture to the fabric. Work with different Gravity settings and adjust interactions between the wrinkles. See how they react to kinetic and gravity forces and tweak the overall flow.

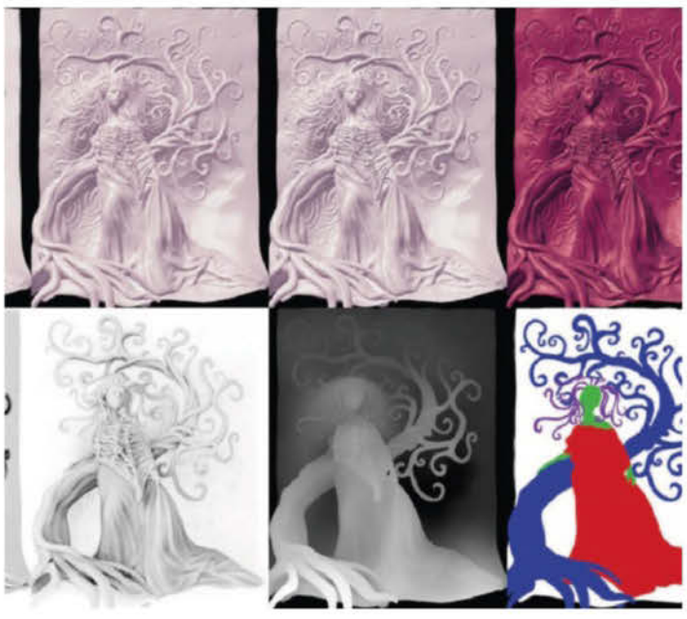
15 Facial expression AOur goal is to show that our Dryad enjoys the presence of a tree (she's the spirit of a tree, remember). To change her neutral facial expression to something with more character, firstly re-sculpt her eye a little to a half-closed, sleepy shape. Mask the lower lid and lower half of the eyeball with the Layer brush and then work on upper parts of the eye with the Clay brush. When the upper eyelid is lower, use the TrimAdaptive and Smooth brushes to create the correct curvature of the lid. To finish, use the Pinch brush to sharpen the edge. To create an elusive smile, decrease the model's subdivision and use the Move Topological brush to move the corners of her mouth slightly.



16 Apply materials I'm going to re-create materials from a similar, older illustration. Before we start sampling information we need to prepare our tools. Choose a Plane primitive, convert it to Polymesh3D, draw it on the canvas and enter Edit Object mode. Choose a Flat Color material, then in the Texture menu import an image to sample information from and add it as a texture to the Plane. Drop it on the canvas and choose a sphere – an object to check the new material. Draw it on the canvas in Edit mode beside the Plane and choose MatCap White Cavity material from the ZBrush library. Pick the MatCap tool and start sampling from the illustration reference. Click the image and drag the cursor until a red arrow points outwards. Repeat this several times, bearing in mind the direction of the facing surfaces. When happy with the colour, hit Cmd/Ctrl and start grabbing the highlighted areas. Doing this we can create specular highlights.

Practise makes perfect

At the beginning, without knowledge of fabric dynamics, it is very difficult to sculpt believable folds. I recommend studying as many references as possible, observing different kinds of clothes, studying sculpture works – even taking photos of varied fabrics in different configurations and then trying to re-create them digitally. The more you practise, the more believable your effects will be. When you understand folds you can create any fabric without relying on references. It's vital not to focus on one area at a time; first establish larger folds, their direction and placement, and keep in mind fabric qualities and gravitational forces.



17 Create illustration Use Best Preview Render to render the image in a few separate passes: different MatCap materials, Ambient Occlusion and Shadow from one main light source. Fill each SubTool with a different colour and render it with a Flat Color material – it will be the mask for easy separation of each SubTool for post-production. In Photoshop, apply a layer mask to each rendered MatCap layer and experiment with different material configurations. To finish the illustration, import a Shadow pass and Ambient Occlusion and set them to a Multiply blending mode with customised opacity.



Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info

EMILIO J LOPEZ

Personal portfolio site
e-man.deviantart.com
Country **US**
Software used **Photoshop**

Emilio has worked in almost all aspects of the entertainment industry, from animation to licensing art, comics, card games and video games. Some of the more notable properties he has worked on are *Teenage Mutant Ninja Turtles* and *Justice League Beyond*.

Paint a colourful comicbook character

Working Progress

From sketch to finished comic art



Step 01: Concept design



Step 04: Colour fill



Step 07: Paint character



Step 17: Special effects

Comicbook heroine **Photoshop**

"Use Photoshop's brush styles and other tools to create high-impact comicbook imagery"

Emilio J Lopez Animator

Photoshop is quite capable of being utilised to the same effect of more-traditional mediums. Brush styles can simulate markers, coloured pencils, watercolours and even oil paints. Like any artistic format, the best way to become familiar with such options is by experimenting with them.

In this tutorial you will learn how to accomplish comicbook styles using Photoshop from start to finish. Digital illustration is at the heart of this approach, because it enables a great amount of control to create such stylised results, which simply can't be found in real-world media or many programs other than Photoshop.

The techniques covered in this tutorial don't require any additional tools that aren't already available in Photoshop. All the effects and techniques covered can also be applied using older versions of Photoshop. We'll be exploring how to target image areas using Lasso controls and the Magic Wand tool, then using standard brush presets to paint to these specific areas. We'll also look at ways in which filters and blending modes can enhance your image.



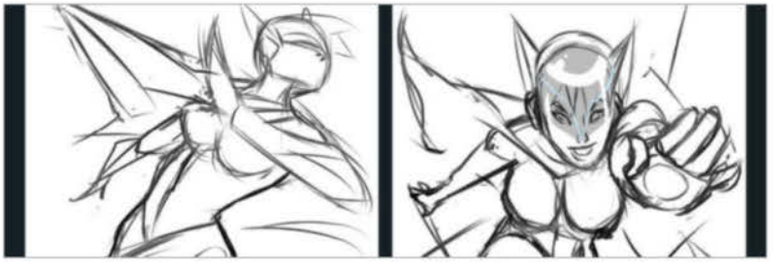
Character concept

Simple thumbnails and block colour using Lasso controls

01 Map your ideas First we'll design our comic character – in this case a comic heroine. One rule to remember is that audiences should be able to recognise your character even if it's silhouetted. Also, if the character has any logos or symbols, we should include them on the design.



02 Make thumbnails Make multiple drawings before settling on any single composition. Use the default round brush with Shape Dynamics and Transfer turned on. Set the Control options to Pen Pressure, as this will enable us to create thick, thin, light and opaque lines, which is great for sketching.

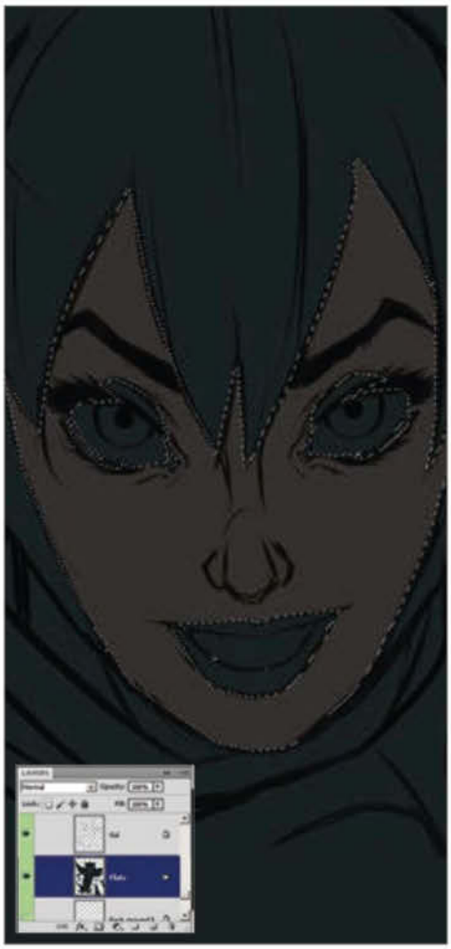


03 Finish the Sketch Once you've settled on a thumbnail concept, start to refine your sketch. Use multiple layers to separate drawn elements, for example in the foreground, midground, background and other elements such as the visor of our heroine's helmet. This will keep things organised later on.



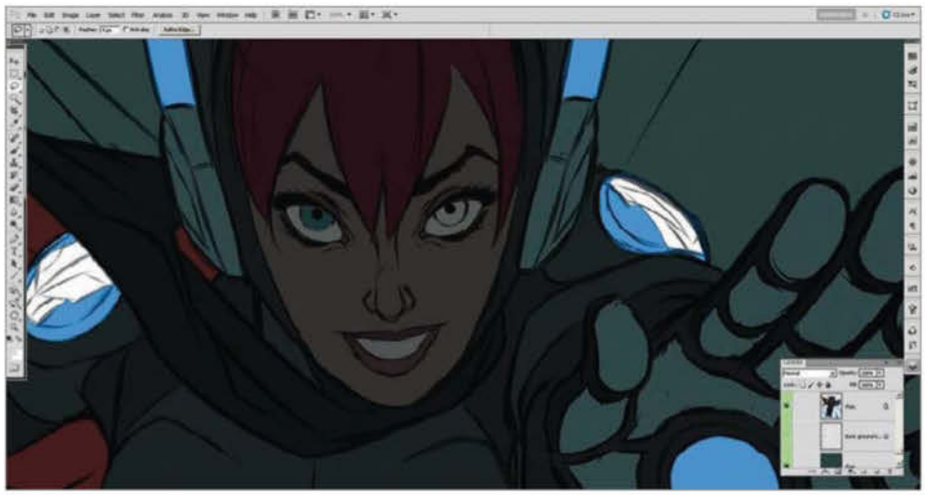
04 Magic wand colour fill Make sure to lock the Opacity of each of your drawn layers and ensure each one has its own colour layer underneath. Now we select the Magic Wand tool, turn off Anti-Aliasing and set it to Contiguous and Sample All Layers. Select the empty area around your line art and hit Shift+Cmd/Ctrl+I to invert your selection. Next choose Select>Modify>Constrict, repeating application until the selection inside reaches the edges of your line art. Hit Opt/Alt+Delete to fill the image.

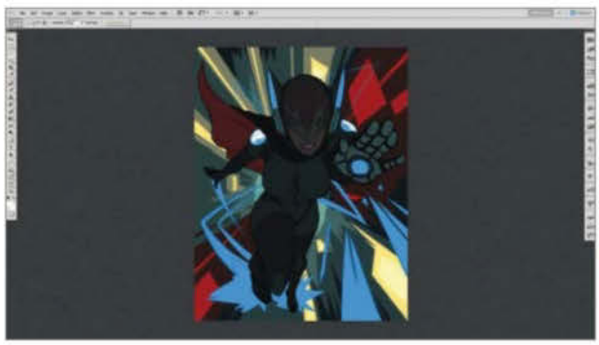




05 Make more fills Now the image is filled, lock the Opacity of its colour layer and use the Magic Wand tool to select inside the line art. Once selected, go to Select>Modify>Expand. Sometimes, because of unclosed or incomplete line art, the Magic Wand will bleed out into areas you don't want to colour. We can clean up our flat colour areas by using the Lasso tool, applying flat colours and detailing areas. We can also use this tool to target the areas we want to select., but remember to deactivate Anti-Aliasing.

06 Select with the lasso There are two types of Lasso tool controls: Freehand and Polygonal. You should use the Polygonal Lasso to apply straight edges to areas such as the flame jets coming from her feet and her trail, which signifies momentum. Use the Freehand Lasso tool to make selections of oval or rounded shapes, such as the lips or eyes. We can toggle between the two while applying live by holding the Opt/Alt key and releasing the mouse button or lifting your stylus pen off the tablet surface.



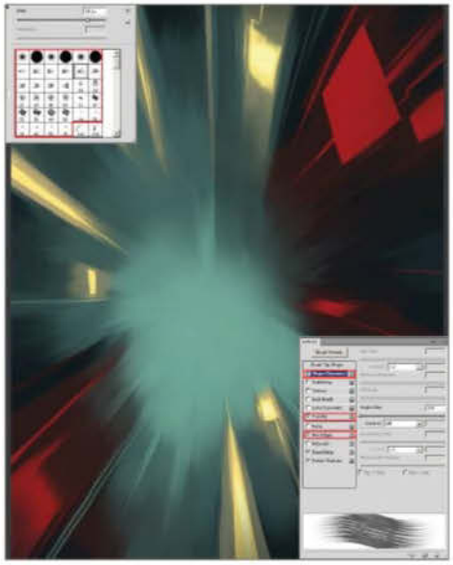


07 Colour holding Using the techniques we've just covered, continue to apply selections and flat colour throughout the image (see the supplied example). Once flat colours are spread, duplicate them and the line art. Now we'll make sure that our line art's Transparency is locked and proceed with colouring in the lines themselves. This is referred to as a colour hold or self line. When our colour holds are complete, we will merge our copied line art with these new coloured layers, with the exception of the visor.

Expand and contract actions

Instead of choosing Select>Modify to Expand or Contract selection edges, you can create an Action from these functions. First make a selection then go to Actions and hit the Record button. Choose Select>Modify>Expand, add a value of 1 and stop recording. To finish, name your action, give it a hot key and repeat to gradually contract selections.

08 Background painting At this point it's time to hide all the foreground layers but not the background. Painting this before any other special or rendering effects helps, as it's the focal point for lighting in our piece. We'll paint the background using our preset Photoshop brushes. Select the Round Fan Stiff Thin Bristles brush in the options and activate Shape Dynamics, Transfer and Wet Edges. Set the Control Options to Pen Pressure, as this gives us a more natural, painterly look.



10 Apply to the face Select the flat colours of the face and use the Splatter brush with the preset options mentioned to render contour. To better render faces you can make a bespoke oval-shaped brush by going to the Brush Preset options and selecting Brush Tip Shape. Now adjust the Roundness values to edit the existing brush shape into an oval. You can adjust the direction of the brush as well as the spacing to create different effects. Any brush can be distorted in this way, so experiment and see what works best.

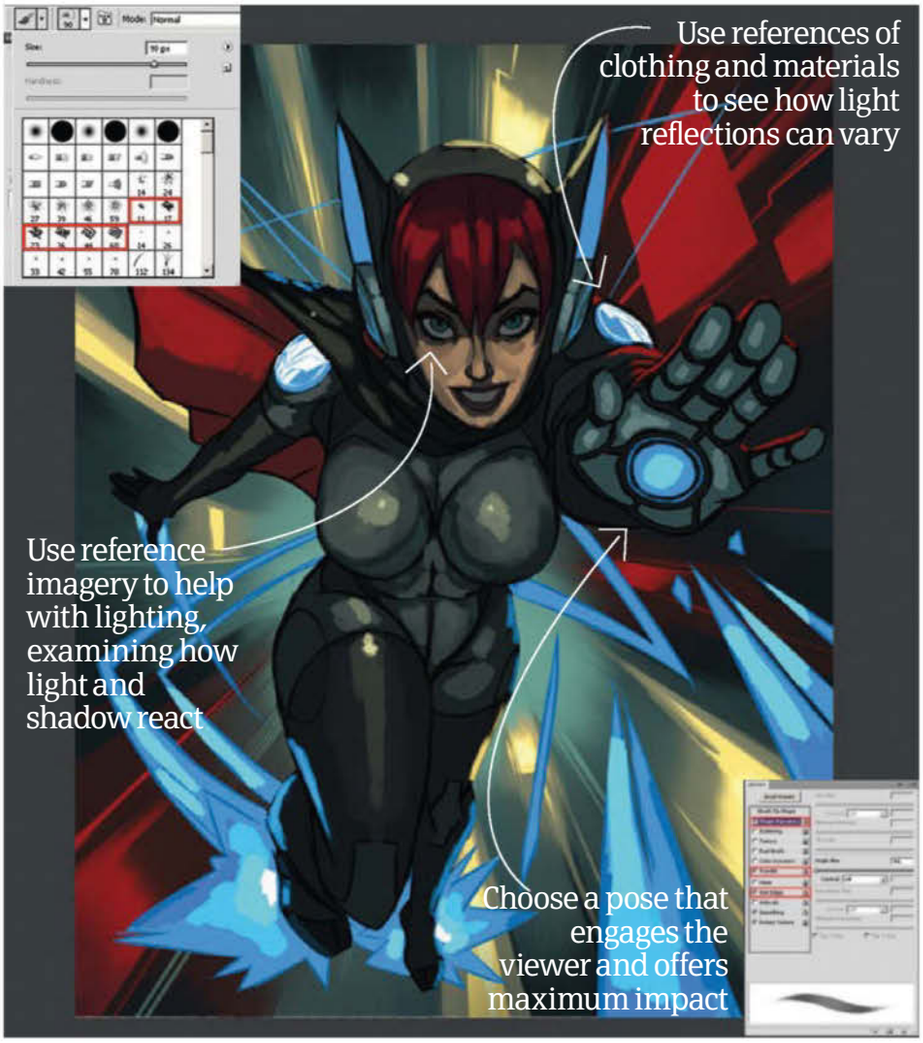




Paint your character

Use preset brushes to evolve contour and texture

09 Review your progress We'll start by selecting our flattened character colour layer. Use Chalk brushes to lay down the first indication of light and shadow in the contours of the character, then try to work with the whole figure at once to get a full sense of the lighting in the piece.



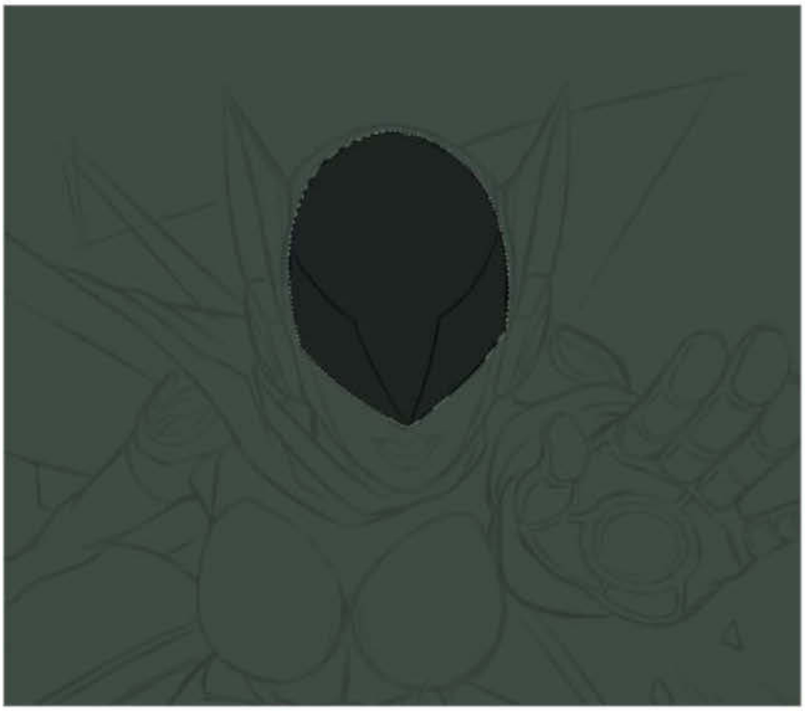
11 Build up hair and clothing Select the hair from your flat colour layer. When rendering the hair, use the oval round brush we created in the last step and pay attention to your light source and the direction it falls. Splatter and Round Fan Stiff Thin Bristles brushes work really well when applying hair. When rendering a shiny outfit you should remember that it has a reflective surface and will pick up any stray light in the environment, often including hot spots.



12 Focus on the details Use a small round brush for minute details and tighten up any loose lines, like on her hands or the logos on her arms. Add hot-spot highlights and reflections, then use a round soft-edged brush to lightly smooth out her uniform and face. Don't overdo the feathering in this brush style as you'll want to soften the surfaces, not totally blur them. You won't want to lose your strokes and detail, so try setting the brush Opacity to 40% to soften the effect.



13 Create the visor Now that the initial painting is done, we can begin work on the visor that lies over the face. Turn off all of your layers except your character line art. If you haven't already added a colour flat of the visor, do so by using the Magic Wand selection techniques discussed in Steps 4 and 5. Duplicate your line art and your flat colour once more, but this time don't merge the line art with it, as we'll need the line art to do some colour holds later.

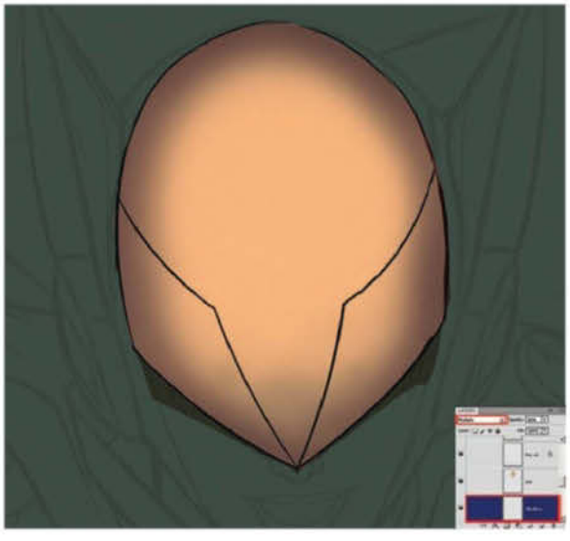




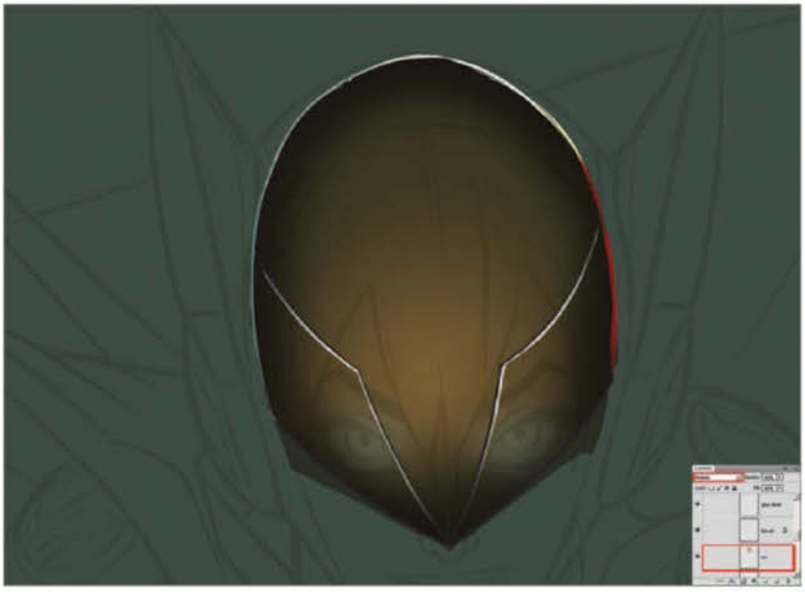
Add finishing touches and effects

Use Photoshop blending modes to create your character's visor

14 Visor tint and shadow Now the visor is flat-coloured, make sure that the Opacity is locked and use a feathered brush to colour it in. Try using bright- and dark-amber tones to indicate light. Next we'll create shadow on the face created by the visor on a separate layer. Make sure that this shadow layer is under the main visor flat colour, again using the Lasso tool. Once the shadow is drawn, set the layer to Multiply.



15 Add colour holds to the visor Set your amber-tinted visor layer to Multiply and lightly paint the eye area white using a feathered brush. This will enable the colour of the eyes to show through the tinted visor. Go to your duplicated visor line layer and paint lines based on the background lighting. Now create another layer under the line art layer, so that we can create the indication of raised glass. Use a small round brush for this.

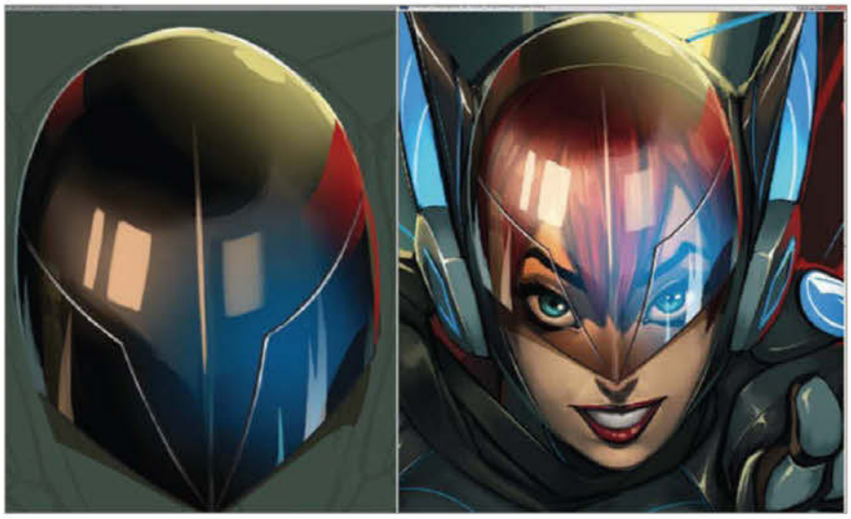


Quick Tip

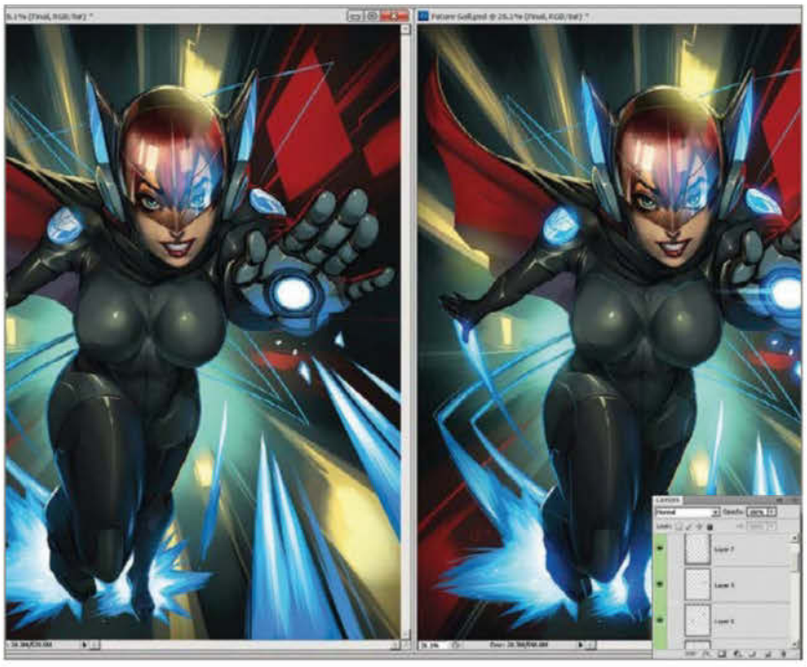
Switching through different-sized brushes can be a bit cumbersome, especially if you want to quickly change to a smaller version of a brush you are using. Try using the square bracket keys ([and]) to expand or constrict your brush sizes.

16 Insert more highlights

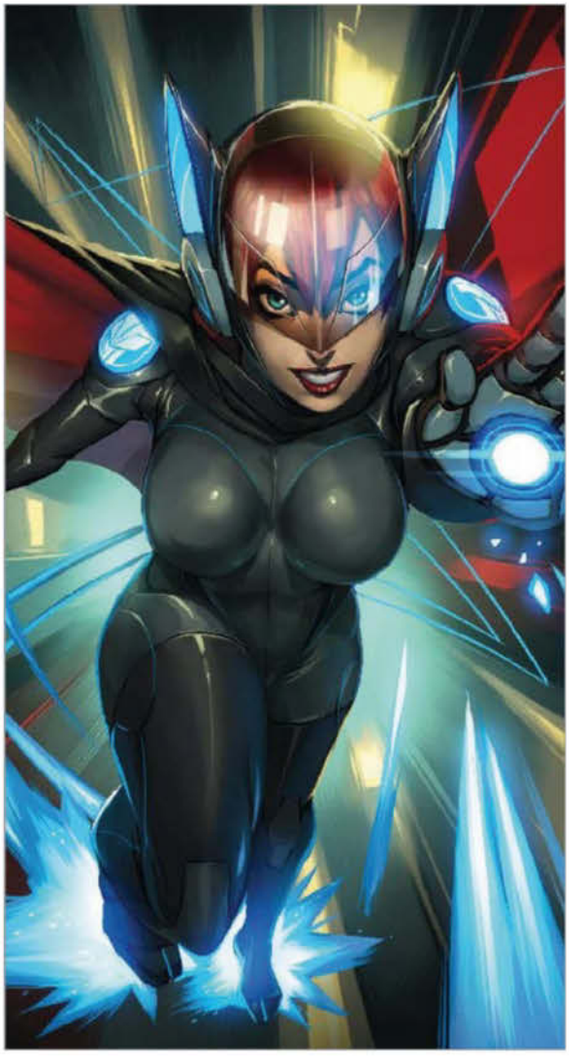
Duplicate your flat colour again and make sure the Transparency is locked. Place the layer between the detail layer and your amber-tinted visor layer. Fill the new visor with black, then paint the details and shines based on the background and previously established lighting. Use an oval-shaped brush and a feathered round brush to paint light shines. When you're done, set your layer to Screen.



17 Bring in the special effects Create a new layer and set it to Linear Dodge Add. Take a feathered brush and start painting on top of the blue tones in the image's blue lighting and energy effects (see the example) to improve the glow effects. On the same layer, colour pick from the background and apply similar glow effects here. Create another layer set to Multiply, adding dark gradients on the left and right side. Apply the oval brush on a new layer to create a lens flare from the glowing hand. Use an electric, blue, small round brush to add accents to the heroine's suit.

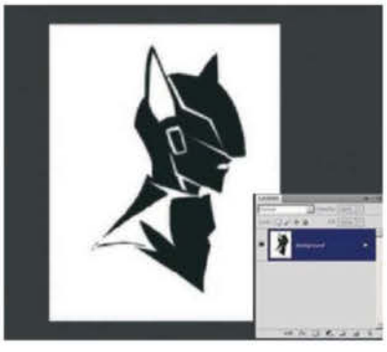


18 Use grain Create a new layer and fill it with grey, making sure it's not too dark. Go to the Filter options and select Texture>Grain, setting Intensity to 27 and Contrast to 25. Hit Cmd/Ctrl+Shift+U to make the grain into a uniform grey. Now set the layer to Overlay at 47% Opacity. This layer serves two purposes, adding a bit of texture to our piece, but also lightening the whole composition slightly.



Good advice

The simplest of features can say a lot about a person, from the shoes they wear, the look on their face, or even simply how they present themselves in public. If you look hard enough you will find that everyone wears a story on the surface. As an illustrator you need to pick up on these subtle things and apply them to your own work. Every little bit counts toward the believability of your character no matter how fantastic it is. Observe the world around you and let it inspire you to create worlds of your own.



Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Andrew Baker

Personal portfolio site **www.andbakerdesigns.blogspot.co.nz**
Country **New Zealand**
Software used **ZBrush, Photoshop**
Andrew Baker creates and conceptualises characters and creatures for physical and digital pipelines

Using DynaMesh

Use DynaMesh wisely. I start using DynaMesh on a very low level. In this case I have it set to 48, but depending on how large your model is the resolution will differ. At the early stages it's almost like what you do with sketching: blurring your eyes to start visualising where the forms are, and quickly laying down broad strokes to find the design. DynaMesh is extremely useful at this stage and can be used in the entire sculpting process. However, I prefer to use it as a base generator and subdivide further. Later I want to be able to drastically pose this character, so having a lower subdivision level helps with this.

Design a Weta character

The Satyr 2012 **Photoshop, ZBrush**

Learn to use ZBrush to create a fantasy character portrait, following Andrew's Weta workflow

Andrew Baker Digital artist

A bust or portrait is always a great place to start visualising a character. TZBrush enables us to conceptualise an idea to an extremely high level relatively quickly as well. We no longer have to go through an arduous technical process to create an effective, realistic-looking 3D character.

Without getting too focused on the technical aspects in the 3D process, I'd like to show how I generally start conceptualising a character by creating a bust and portrait. Due to the speed at which I execute such refined work, this is where I begin the conceptual stage of my project – often, in essence, cutting straight to the point.

Source files available

Find tutorial files on the disc

Concept

The aim of this tutorial is to create a fantasy satyr-type character. I want to create an overly stylised face for a fantasy genre that can be rendered realistically and create impact.



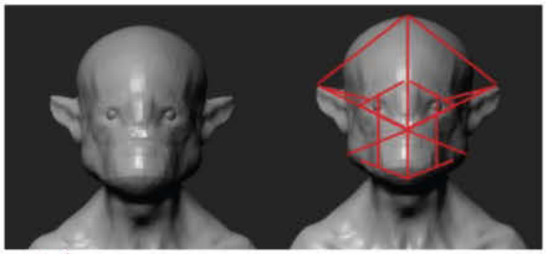


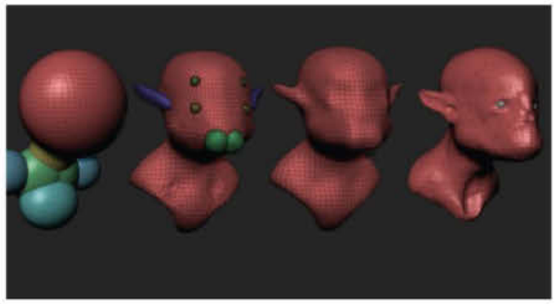




Conceptualise with digital clay

Get started on the sculpture in ZBrush

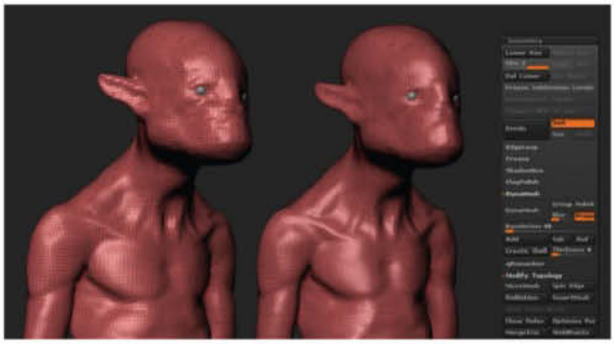




01 Use primitives to establish a base Traditionally, it used to be quicker to start a 3D sculpture from a base mesh you had already created. I've always found this process a bit limiting on a conceptual level, though, as you are technically pushing and pulling a volumetric shape – it feels constraining. All of my design sculpting now starts from a sphere. With the use of Insert Mesh brushes and DynaMesh I can experiment with different shapes before locking into the base I'll use to finish the sculpture on. Once I've got enough primitives there to manipulate, I use DynaMesh at a low level of 48 and start sculpting.

02 Design considerations I create several lines to highlight relationships on the face. The ears line up with the eyes to the point of the nose and from the nose outwards to the edges of his jaw. I generally think of character faces in triangles that are largely based on humanoid configurations. This can be pushed as far as you like – for example huge noses, tiny eyes, massive chins. It's a game of consideration. Be aware of what's working and what isn't. This will be the design base for the following steps.

03 The right geometry With this sculpture we're trying to be fast, but effective. My goal is not to create a production model; however, ZBrush still enables you to create a high-res sculpt really quickly, so it's worth having enough geometry to get you there. I find it's essential to get as much information in the lowest subdivision level before subdividing, so that I won't need DynaMesh again. I keep design elements like horns and eyes on a separate SubTool to move them independently if I need to. I subdivide twice at this stage to begin sculpting further.

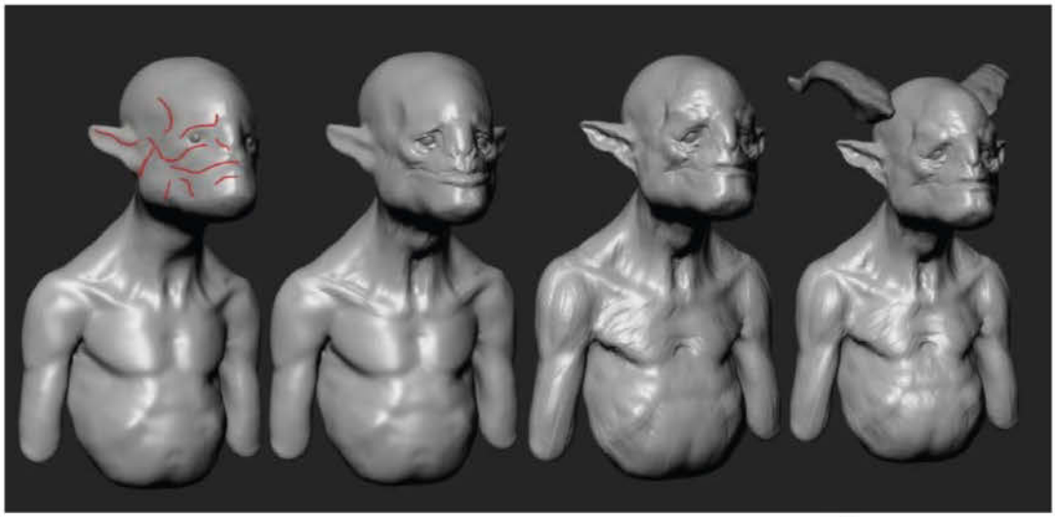




Form, texture and pose

Let's get the character into pose and refine the sculpt

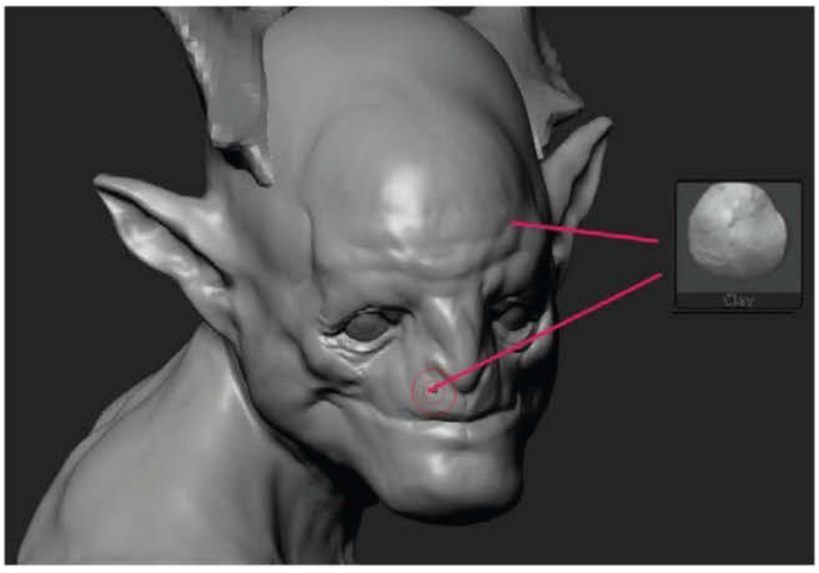
04 Build the forms Now, with some extra subdivision levels, I build up some of the forms. Using the Clay Buildup brush I want to create direction for the surface and build up some secondary forms. Doing this on one of the lower subdivision levels can create some nice organic effects on the upper levels. I often switch between the lower and higher subdivisions at this stage to play with the options a little. I want to create a drastic pose for this character, looking over his shoulder, so I don't want to get too precious about any forms at this stage, but rather block out the basis for his personality.





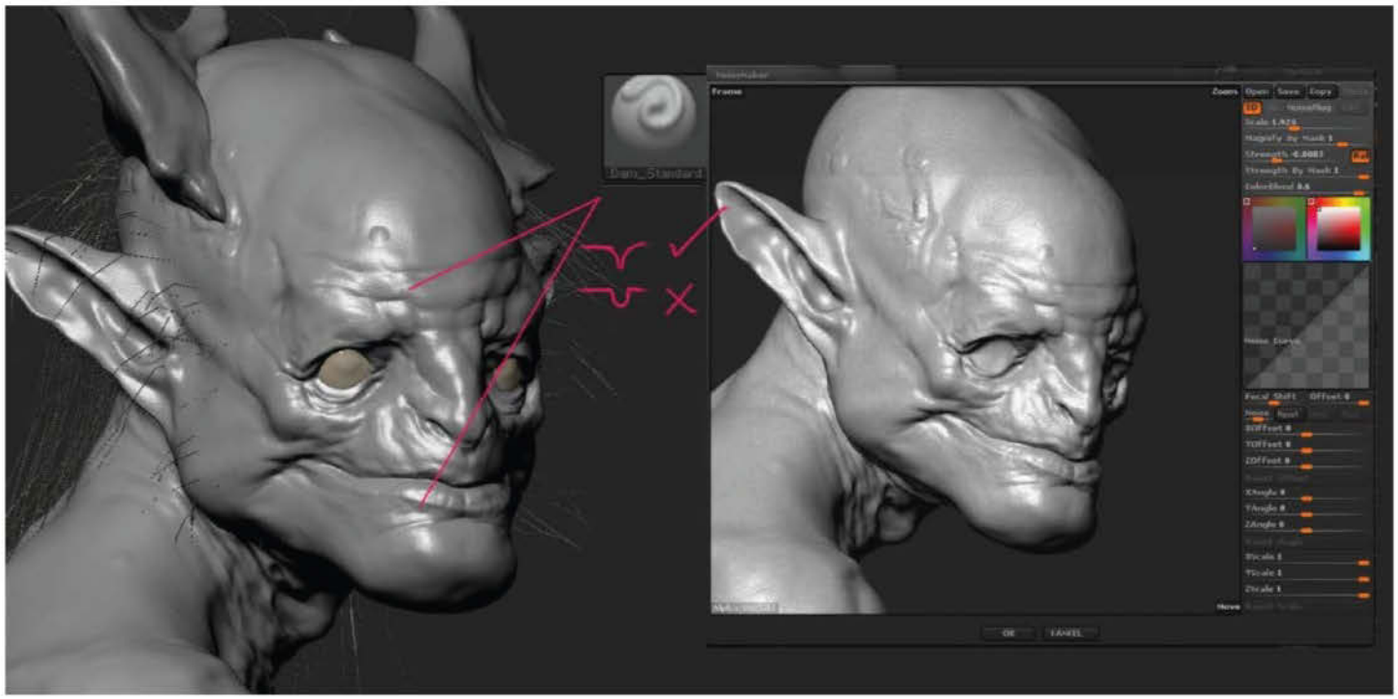
05 Put the character into a pose As our end goal is not a symmetrical production model, I want to pose it right away. I have a clear idea of how I'd like to present this character, having him look over his shoulder to create an asymmetrical bust and an interesting view for the portrait. I use Transpose Master to generate the pose. Be as bold as you can! It's important not to marry to any forms at this stage and let it come out in the posed maquette. I also sculpt into the mesh while transposing, trying to fix any broken anatomy as I go.

06 Tighten up the forms Now that the model is posed and I have some higher subdivision levels, it's about refining those secondary forms, like the cheekbones, lips, brows, eye sockets and so on. For me, there's no better brush than the Clay for this. It creates very nice crease lines, which can start as the base for our wrinkles. I find the Clay brush, if treated right, can give some nice results to the higher subdivision levels, using the Smooth brush to soften where needed. I also play with the shape of the horns, considering how they affect the overall silhouette more, now they're on the posed character.



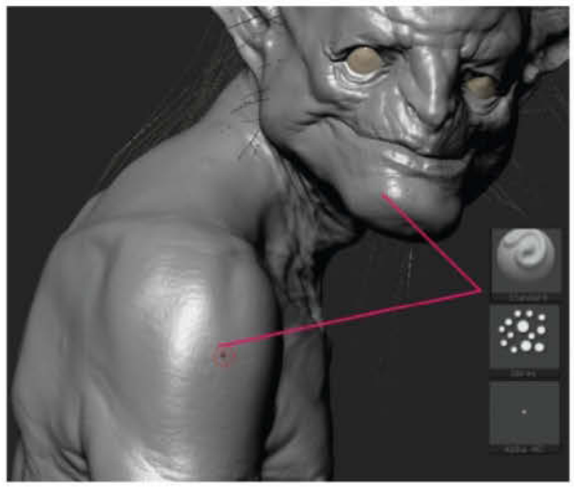
Quick Tip

Using different shaders is a great way to tackle certain aspects of your sculpting and colouration. For my primary forms, I prefer to use a shader like MatCap Grey, which shows the forms off really well. When I start my secondary forms, I turn on the Blinn shader, as this has a nice general specular highlight, which is also good for showing the detail. I flick between that and MatCap Grey. The Skin Shader default is awesome for colouring flesh-toned characters, and I use this a lot for my concepts as it displays really well.



07 **Detail and texture** I am now happy with the secondary forms and can start to see where my detail needs to go. DamStandard is my new favourite brush for going into these soft forms and giving them some sharpness. They fold into the surface and create a pinched, V-shaped crease, instead of a U-shaped crease like the normal Standard brush makes. I also add a noise pass to create the pore effect on the surface. Playing around with the scale and intensity of the noise function can create awesome pore- and skin-like textures. Experiment with this feature to really get a grasp of just what it can achieve.

08 **Pores and extra texture** To create another level of focused noise in areas, I use the Standard brush with a Scatter effect and a very small Point Alpha. I turn the Z Intensity slider quite low and increase the size of the brush and intensity as needed, especially on the shoulder and chin areas or anywhere I think a specular highlight might appear on the final piece. I also use DamStandard with a really low intensity to create very fine wrinkles, going in the direction of the skin compression.





09 **Add some colour** As colour will greatly affect how our texture is shown, I want to start adding that in, treating the detail of the surface and colour now at the same time. I start off by adding a very light base colour, covering the whole model. I use the default skin shader as this shows up colouring for skin very well – and all in real-time. I layer up the model with reds, blues and yellows for the underlying blood vessels to wash with a flesh colour and soften in areas. I also mask out the cavities to add some dirt.



10 **Refine detail with colour** Because ZBrush enables us to affect the form while adding colour, I go back to my DamStandard brush, turn the RGB down very low with a brown colour and start to tighten up some of the wrinkle details. I also use the Inflate brush to push all the details tighter together.



Final touches and presentation

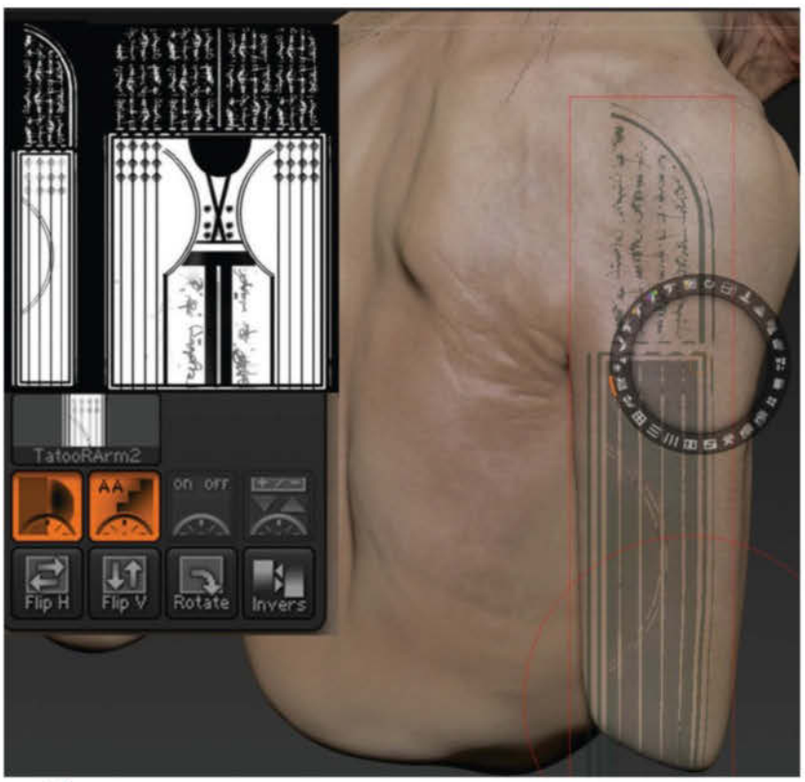
Finish the painted sculpt and get it ready for maquette presentation



11 Add the hair Another hugely innovative tool from ZBrush is FiberMesh. This is a great addition to the process as things like hair really add a nice touch to a character like this. By simply masking off areas where I want there to be hair, I turn on the FiberMesh button and begin to adjust to the different hair I'd like to add. I want some variation in the hair around him, but I want it to be quite thin, sparse and wiry.



12 Get creative Without going too far and crashing your machine, you can have a lot of fun creating different hair around the face. Masking areas like the tips of the ears is a nice touch, I find, while creating some scraggly sideburns can also be effective. There are lots of options to play with, so I suggest spending some time to get used to what's possible. I always take time to manipulate with the brushes afterwards, so I can be sure to create a much more effective look.



13 Give him some ink I want to add another element to this character that isn't necessarily a costume accessory. I'm thinking of a large religious-style tattoo on the character's back. I create the tattoo in Photoshop as a flat template then use Spotlight in ZBrush to project it onto my character. Spotlight is another great way to project any other further texture onto your characters.

Quick Tip

Depending on how long I have to get an image done, I sometimes spend a bit of time playing with the hair and positioning tattoos. These are often things that can be explored in 2D for conceptual pieces, but it never hurts to have something 3D there for the final render. All of what's been done so far has been done very quickly without getting too consumed with technical aspects. If it's not working in 3D, solve the idea quickly in 2D by doing paint-overs before committing to the 3D render. This can also be really handy to show a client for variations.



Compose the final image

Render and capture the essence of the sculpture in post

14 A perfect comp Having the composition in mind from the beginning will certainly help you get to this stage quickly. This way there's no unnecessary sculpting and the entire process is geared towards aiding what we want to show. I aim to create an interesting pose that isn't front-on to the character, thereby enhancing his silhouette a little. Having the sculpt turned to a grey shader (Blinn, in this case) and doing some quick BPR renders with the main light source will also help us judge how best to compose the character. I create my document in portrait at about 1,310 x 2,050 pixels, which will be the final crop.



Quick Tip

It's vital to experiment with different shaders and effects in ZBrush. There's no limit to the variation of materials and textures you can create in ZBrush without the use of photos or alphas. Designing and creating characters in 3D and getting realistic results doesn't have to be a laborious process anymore. Also, keeping a library of references will always aid the creative process and arm you with a catalogue of ideas.

15 Render out layers for post Once I've established my main light source, and the shadow that is created by looking at the BPR render passes, I start to look at what else I can take to Photoshop to help this image along. I render out a lot of different light passes on the various standard shaders turned to black. I use the BPR render passes, a cavity and reflection pass. For SSS I use a standard shader set to red and amp up the ambience. Then I just need any shader that looks like it might do something interesting in Photoshop.





16 The final composition I generally experiment a lot with blending options on the passes I've rendered out. Because this guy has human skin and I've painted the model, the initial render gave me a lot to work with. This is the great thing about this process and leaves us a bit of time to spruce up the image. Using the Z-Depth map and changing the colour while turning it to Overlay can create some nice depth effects. Reflection and Light maps can be used to create interesting effects for the eyes, too. At this stage, be experimental and have fun.



17 Post-production Once I'm happy with the blended layers, and they're all doing what I want, I can really start to have some fun. A background can be used to make the image look more of a studio shot or something more photographic. As this image could be used as the base for many design passes, I'm not shy about painting over areas that need further attention – even using photographs – although I only ever use photos to add noise or textures where I can. Sometimes it's unavoidable, but if I'm sculpting a character like this, there's really no need.

Design a magical character

Quinnv **Photoshop**

"Paint a fox spirit, taking inspiration from scenes in martial arts movies and model references"

Zhonglu Zhao Digital artist

My aim is to highlight what I wanted to achieve with this illustration of a fox spirit, as well as my concept art and design process in general. As a professional concept artist, I start every piece with a picture in mind of the artwork I want it to be, but it does change and evolve throughout the process. My advice to anyone going into concept art is to watch a lot of movies, look at a lot of art and read a lot of books. Other media is full of things that can influence and help you realise the kind of character you want to create. I was influenced by martial-arts movies, Asian folktales and novels, as well as an underwear fashion show while creating this character! Don't be afraid to draw from many different sources, because the way you put them together makes something that is uniquely yours.

I wanted to create a sexy oriental woman who was attractive but lethal at the same time. I therefore looked at fictional characters that exemplified this. The inspiration for her design was derived in part from the character of Snow (played by Brigitte Lin) in the martial-arts movie *Deadful Melody* (Liu Zhi Qin Mo). The central character has to protect a powerful and beautiful Chinese musical instrument, known as the magic lyre. Inspired by this, my character stands with her hand on a lyre-type instrument, known as a zither in the West and a guqin in China.

The role of Daisy in the ancient Chinese novel *Investiture of the Gods* had a profound impact on my design ideas too. In the novel, a fox possessed Daisy. Her coquettish beauty captured the heart of the king, and the country was paralysed. In the East, charm and magic are often symbolised by the fox in this way, and legends of fox spirits are also found in Chinese, Korean and Japanese folklore. Fox spirits can change their shape at will into beautiful women and live for hundreds of years. Their myths are similar to English stories of fairies; they can cast illusions over places and take people out of time. Sometimes evil, sometimes good; but fox women are always beautiful and clever. I wanted to bring this into my piece of concept art to give it a distinctly oriental flavour. Fox women feature in some manga too, so I was confident that Western viewers would at least be familiar with them as an Asian art staple.

At the beginning of the drafting stage, I placed the image of the fox into the design, positioning it on the shoulder like a fur coat. I also developed the eyes to look out at the viewer. In the final draft, though, I removed the shoulder design and gave her fox ears instead. When creating concept art for a character, the viewer must focus on one thing, and that's the character. I felt the fox's eyes were distracting and pulling focus away from my woman, so they had to go. Pay attention to what an image tells you even at the sketch stage. If it looks too busy, the shapes don't look right or the eye isn't drawn to where you want it to go, then you need to change something.



Determine her action and structure with a simple silhouette without going into too much detail. At this stage you should have a clear design direction

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Zhonglu Zhao

Personal portfolio site **fireluzhao.cghub.com**
Country **China**
Software used **Photoshop**

I live in Shanghai, where I majored in printmaking. After graduating I have been engaged in the game business. I love this career and hope I can create my ultimate job within it.

Working Progress

Use coloured layers to build up vibrant art



Progress 1: Silhouette



Progress 2: Use one brush



Progress 3: Alterations

> Pay attention to what an image tells you at sketch stage

Artist showCase

Zhonglu Zhao shows us his other masterpieces



She and I
2011, **Photoshop**
● The idea behind this picture is the relationship between my wife and I. Although the wall has been damaged and the roof is leaking, I hope that no matter what, I will be able to protect this loving environment



Comfort
2010, **Photoshop**
● In this piece I aimed to create a harmonious atmosphere taking visual inspiration from birds and crocodiles. Instead of presenting two opposites or a frightening monster, they are in coexistence. I wanted to express the themes of love in life in this work



Syracuse
2010, **Photoshop**
● I painted the scene as a futuristic vision of the city Syracuse. It looks very grand and sturdy, even though it was rendered in a rather relaxed style. I tried some new techniques to create a heavy feeling





Once I've roughed out the pose and silhouette, I focus on the head and face, where most of us look first. Designing the head, I thought of the movie *The Bride with White Hair*, and the role of Bingbing Li in *The Forbidden Kingdom*. I therefore gave her white hair. The risk is that this can make a character look too old, so think carefully about how you're going to render it. Casting it with yellow or grey will make your character look like they have aged white hair. Casting it with faint notes of blue, platinum or purple makes it look like they naturally have frosty-white hair, keeping them youthful and unusual.

● I meticulously painted the Chinese musical instrument, added a ponytail for my figure and she was basically complete.

● I gained a lot of inspiration from watching a Victoria's Secret video. I drew two sketches very quickly and chose the one that I felt best conveyed the effect I wanted.

In my early sketches I experimented with making my character's hair accessories look like the tail of a scorpion. This made her look definitely evil, rather than the sense of ambiguity I was aiming for. Once I started to incorporate the fox ears, the scorpion design looked out of place so I removed it. It's important not to fight with an image. If something isn't working, change it! The fox ears became the focus of her accessories; they're what make her face stand out and grab attention. I used a lilac-toned white for her hair, so the eye is automatically drawn from the tips of the ears down to the face.

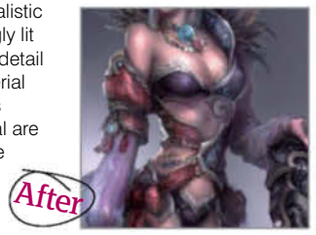
The design of the clothing was meant to be a combination of loose and tight, flowing and clinging, to really emphasise her sexiness. The sleeves are tight fitting but then flare out, while the skirt skims her body. The exaggerated high heels make her more statuesque. This heightens the perception that she's very slender, giving even more of an impression of an

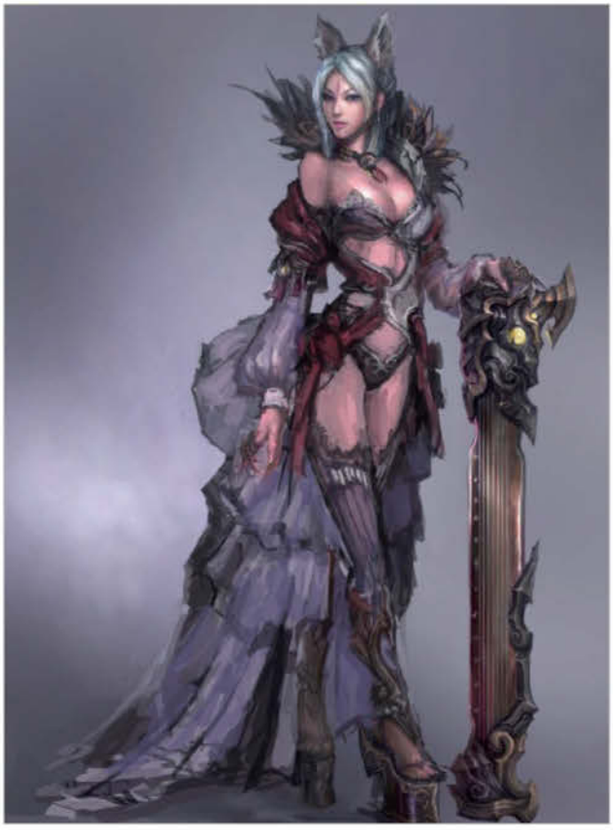
Materials and light

Strengthen contrast and add detail



Keeping a strict light source in mind, I added realistic shadows onto her chest and collar. In the strongly lit areas I added more detail, and toned down the detail in the dimmer parts. Remember that not every material will reflect light in the same way. Silk, for example, is smooth and transparent, but the reflections on metal are much stronger. I also added a backlight to make the character seem more three dimensional. Finally, I added a hint of texture on the fabric of the sleeves and chest to complete this portion.





otherworldly, magical character. The overall pattern is moiré, a double-overlaid grid that creates a shimmering look, adding to the magical element.
I changed this design several times. One thing I added and then removed was a lantern. Fox spirits are often associated with them so I initially placed one on her thigh underneath her sleeve, but quickly decided that it was too eye catching.

I spent time watching a video of models posing for a lingerie company so I had more of a sense of how women move when wearing these kinds of clothes. As I looked at the way the garments fell, I introduced more flowing shapes and asymmetry in order to make the image feel more energetic and elegant.

Most of my effort went into the design, so production methods were relatively simple. I added new techniques into the more complex or improvised parts; some to achieve the shimmering, painterly effect and others just as personal exploration. I've become used to painting with one of Photoshop's preset brushes from start to finish, always with the Wet Edges setting. Using just one brush is good practice as it helps create a more uniform image. Simply change the colour you use, or modify the settings to make the brush effect wetter or drier. Using different layers or modes like Screen or Multiply, or even using the brush as an eraser, can reveal underlying colours, deepen or brighten them. If you're used to using different brushes this can be a hard technique, but with practice you will master it and create some skilled renderings.

I think concept artists should stick to no more than three main hues. This image is magical and otherworldly so makes use of purples, reds and yellows. Other colours should only be used for embellishment. Follow this advice and you'll be creating magical concept art in no time!

I painted over the original design according to my new sketch to tweak the pose and some of her garments.



I felt that the piece needed an overall boost of contrast. I used Photoshop's Curves adjustment for this and began working seriously on the highlights and shadows.



The effect was beginning to get slightly muddy, so I drew out more details and made further adjustments to the colour tone.

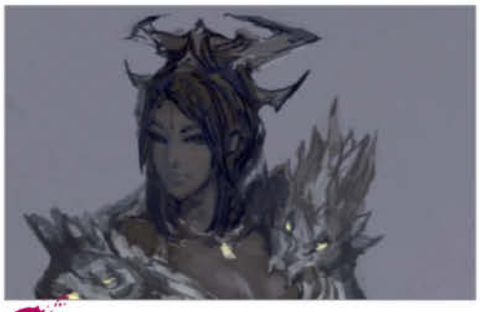
Create a character

During any creative process, the temptation to give up can be strong. This is often the case if you feel the design is moving too far away from your original concept. If you spend time studying references and styles early on and modify the design at the concepting stage, you will be much happier with the result and less likely to give up.



Develop the head

How to paint the head from sketch to final render



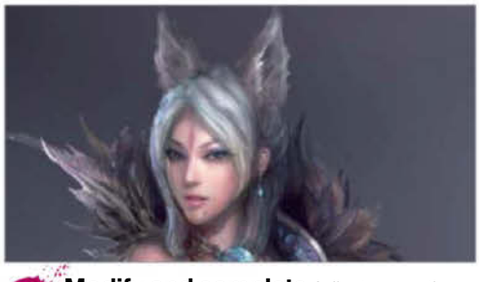
01 Rough sketch I drew a simple silhouette and lines to show her outer contours. The corner of the eyes are tilted, chin sharp and the hair colour black.



02 Overlay colour I used overlapping to colour, then built another layer for the light source. The hair colour changed to white and her mouth open.



03 Add details Saturating colours in the lighter parts made highlights and shade more apparent. I also added smoky eyes, a beauty spot and earrings.



04 Modify and complete Adjust proportions, lighting and detail. Her earrings became blue, and headgear design changed to the fox ears instead.

Creatures

Bring mythical beasts to life

70 Master the art of creature creation
78 Design & model sci-fi creatures
84 Design a 3D alien
90 Develop fantastical animals
98 Master expert creature renders

> When designing a creature, a good place to start is the head



70



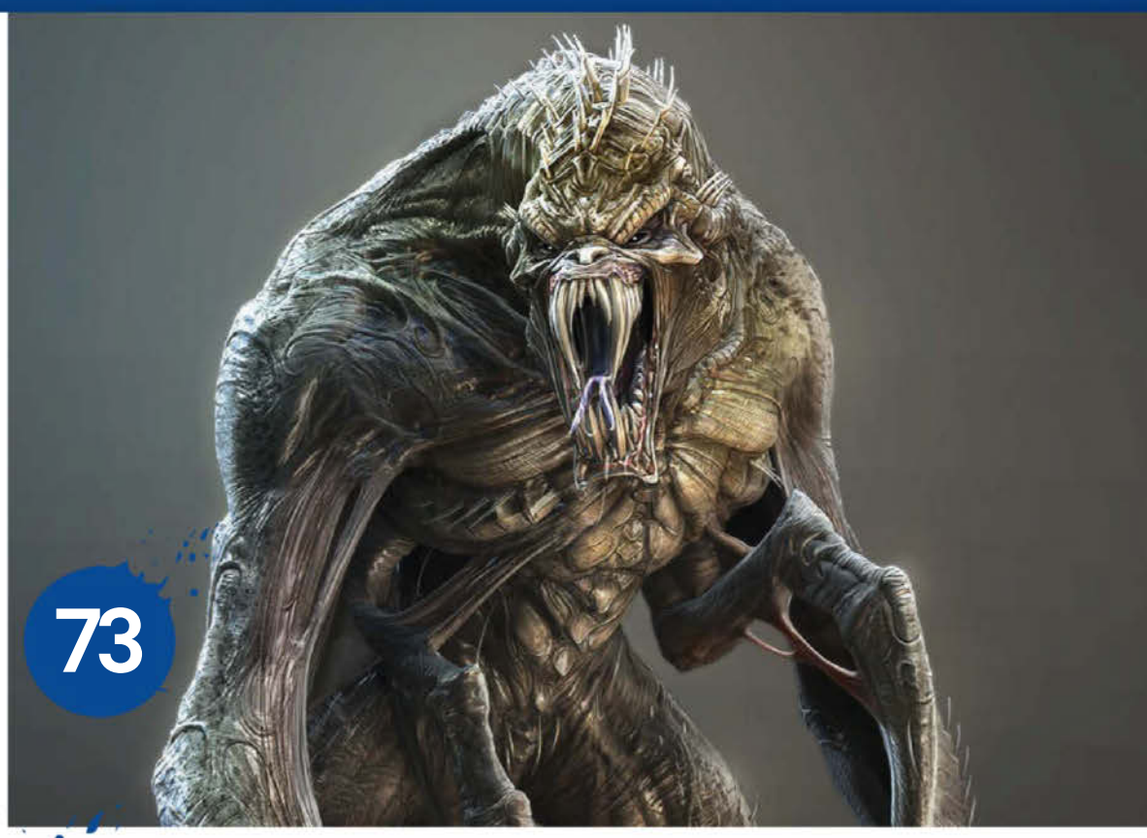
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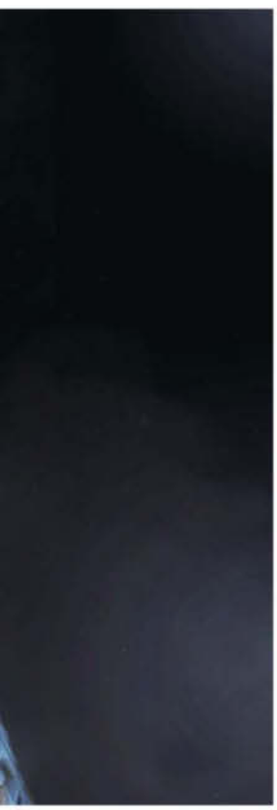
84



70



73





98
Master expert creature renders in mental ray

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Benjamin Erdt

Personal portfolio site **www.ben-erdt.de**
Country **Netherlands**
Software used **Maya, Modo, ZBrush, MARI, Photoshop**
Character and creature artist, utilising a range of techniques and styles.

Master the art of creature creation

Terrorfish – Leviathan 2014 **Maya, ZBrush, MODO, MARI, Photoshop**

"The idea behind this project was to create a highly complex and detailed sea creature, from concept to model and final render"
Benjamin Erdt Professional 3D artist

This sea monster was created so I could practise creature modelling and texturing at a large scale. The following tutorial will guide you through the processes I learned, from inspiration through to final render. By the end you should have developed an understanding of how Maya, ZBrush, MODO, MARI and Photoshop can be used to tackle such a project. The Leviathan was a very complex task in terms of modelling, texturing and composition. The following steps will demonstrate how the model can be built, textured and rendered. Furthermore, we will take a closer look at how such a huge and daunting task can be approached and executed efficiently. This project helped me to gain experience in the creature modelling and texturing field. Hopefully by exploring the process of creating the Leviathan, you'll see how this workflow can benefit your own projects.

Concept

We've only explored a relatively small part of the sea, so I can only imagine what else might live down there. Due to my fascination with sea-life – especially deep-sea creatures – and inspired by monster myths, I wanted to create my own interpretation of a Leviathan beast.



Source files available

Tutorial screenshots





Inspiration and research

Develop your ideas and gather reference

01 Set your goals For this project I conceived the Leviathan as an enormous creature living in the ocean. To get a sense of the scale, I imagined that an aircraft carrier would be a little toy compared to its size. The song lyrics of a well-known pirate metal band describe the hunt for a Leviathan as well as the fight, which were the initial sparks of inspiration to design and create the beast in 3D. We want to make a creature that is a hybrid between several aquatic animals with an emphasis on deep-sea fishes. Gather reference images – for this project, I went for images of viperfish, anglerfish, squid, sea snakes, whales and prehistoric sea creatures as well as reading articles about recently discovered species. When gathering animal reference images it's worth visiting sites such as www.thefeaturedcreature.com. Along with a large database, it is updated weekly with images and scientific information about bizarre, beautiful and recently discovered species of the animal world. Compile your image references and print them out so you don't have to repeatedly load them up while working.



02 Start designing It's the head that will define the whole character, so let's start working on this first. To make our beast look more aggressive, double his lower jaw into an inner and an outer one. We can also add four individually sized eyes on each side. Based on the anglerfish, we want to give him fluorescent tips that illuminate his face. This will help to draw the viewer's eye to the creature's head in the final image. To support the transformation from a rather humanoid upper chest into a whale-like design, let the limbs morph into fins as they go down the body. In order to add more continuity and consistency to the overall design, make the tips of the large back fins elongate until they become long tentacles.





03 Work on overall shape When combining your varied sea creature reference elements into an overall form, make sure that the Leviathan looks convincing for life in its habitat. When straightening the body from tip to tail, the overall shape still has to be dynamic and functional for proper swimming. Check the image for step 3 supplied with the disc – it shows the straight body from a top view and compares the detailed body with a blurred version. You can see that even with its enormous size and complexity, the shapes of the creature can be broken down into a simple fish. This is important for readability and therefore a believable design.

Keep it simple

When learning how to sculpt or draw a skull, a general idea is to break it down into simple planes and primitive shapes. It's worth referring to Eliot Goldfinger's *Human Anatomy for Artists* to look for examples of this. Tweaking the proportions and silhouette of the design is also an easier task when dealing with simpler shapes. Applying this process to your designs is important to make even the most bizarre-looking creatures easy to read and acceptable to the human eye. The ways that I check design readability are by squinting my eyes and blurring the image, or having a copy of the viewport window that shows the model from a greater distance.

Artist showCase

Benjamin Erdt
I have been fascinated by Sci-Fi universes and fantasy movie creatures since I was a child, so I trained myself in CG art so that I could make my own. Here are two other projects that I have invested a lot of time in.



***Saric/Killzone: Shadow Fall* Maya, ZBrush, MODO, Photoshop (2013)**
● *For Killzone: Shadow Fall* I worked on Saric's head, creating the high-poly, game mesh and textures.

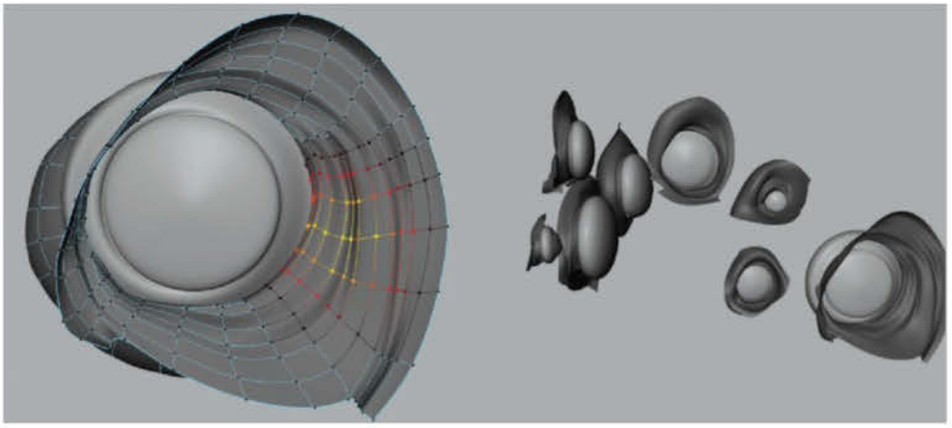


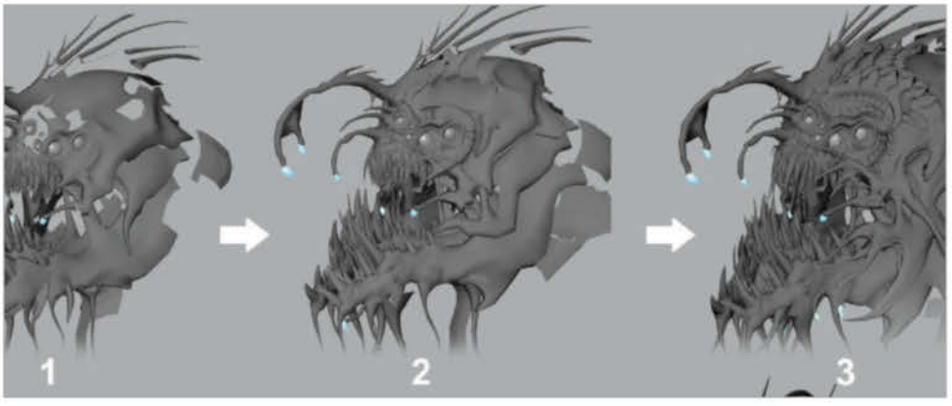
***Monster Concept* Maya, ZBrush, Photoshop (2013)**
● One of the monsters that managed to make it from my sketchbook into a final 3D render.



Model the creature

Start building the beast's head and model the body shape





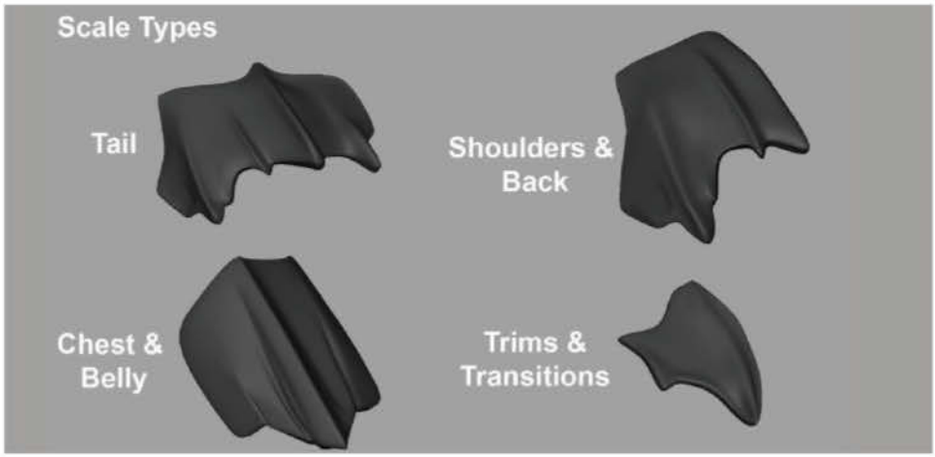


04 Model the eyes Most of my creature projects start with the head, as it is the most important part of the figure. The best place to start is with the eyes. My reference for the look of the eyes was the prehistoric fish known as Xiphactinus. Using Maya, create a PolySphere for the fish eye, flatten it a bit and start building the eye socket around it with standard polygon modelling techniques. Starting with a single polygon, work your way around the eye by extruding edges, adding edge loops, cutting faces as well as pulling and pushing components into shape. Repeat this process for each of the eyes. Keeping the eye sockets separate will make it easier to tweak their relative positions.

05 Develop the head The head is obviously very complex, so we need to spend a good deal of time tweaking to make it accurate. We should start by blocking out the parts that contribute the most to the overall shapes and silhouette. In this case these are the eyes, the glowing antennas, the placeholders where the scales will be, the tentacles surrounding the head, the teeth, the jaw lines and the basic layering of the skin around the cheeks. Keeping these parts separate makes it easier to adjust the silhouette. Once we're happy with the silhouette and shapes, fill in the spaces in between and stitch the parts together.

06 Create the body and limbs The body is created in much the same way as the head by modelling very rough representations of the features. Lay down the basic foundation for shapes, silhouette and volume. Once the correct proportions are established, continue adding more definition and detail. From time to time we should take a break from working so that we can look at it with fresh eyes when we come back. This helps to spot any proportional issues.

07 Add scales Most of the scales are separate objects and are not modelled into the body geometry. By approaching the scales this way, we can give them individual UVs and therefore greater texture resolution and detail. Four different types of scales should be created as a starting point – bigger plate-like scales to go along the tail, medium-sized scales for the back and shoulder area, U-shaped scales going from the chest down to the belly and smaller scales to be used as t rims to create a transition to the skin. All of these different scale types should be copied, transformed and tweaked by hand across the body. This is a very time-consuming process, but it will give you the cleanest and best results for both the design and articulation.



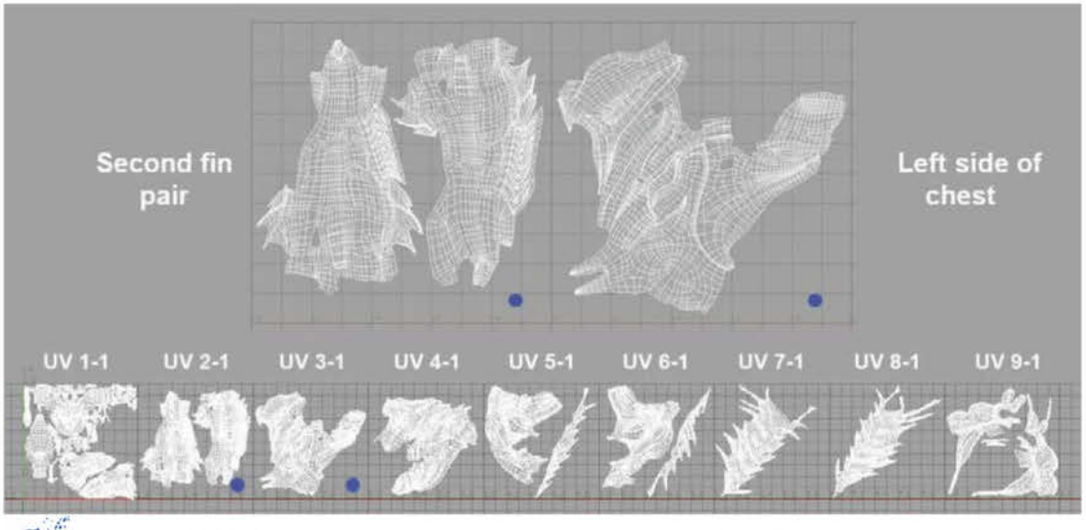


Tidy up the scene

Clean up the scene and import into MODO to create UVs



08 Clean up After the modelling is complete, clean up the scene to prepare it for creating UVs. This includes deleting the history of all objects, snapping their pivot to the world space centre, freezing transforms, checking for flipped normals and deleting unused nodes and empty groups. Naming all objects properly helps to maintain the overview of the model. Proper naming can also reduce issues with scripts that need to iterate through your outliner. After the clean-up process, the entire creature model is organised and ready for export into MODO. The same hierarchy in our outliner is going to be the folder structure for the OBJ files. Each OBJ file has the same name it has in Maya to make it easier to rebuild the outliner hierarchy inside the MODO item list.

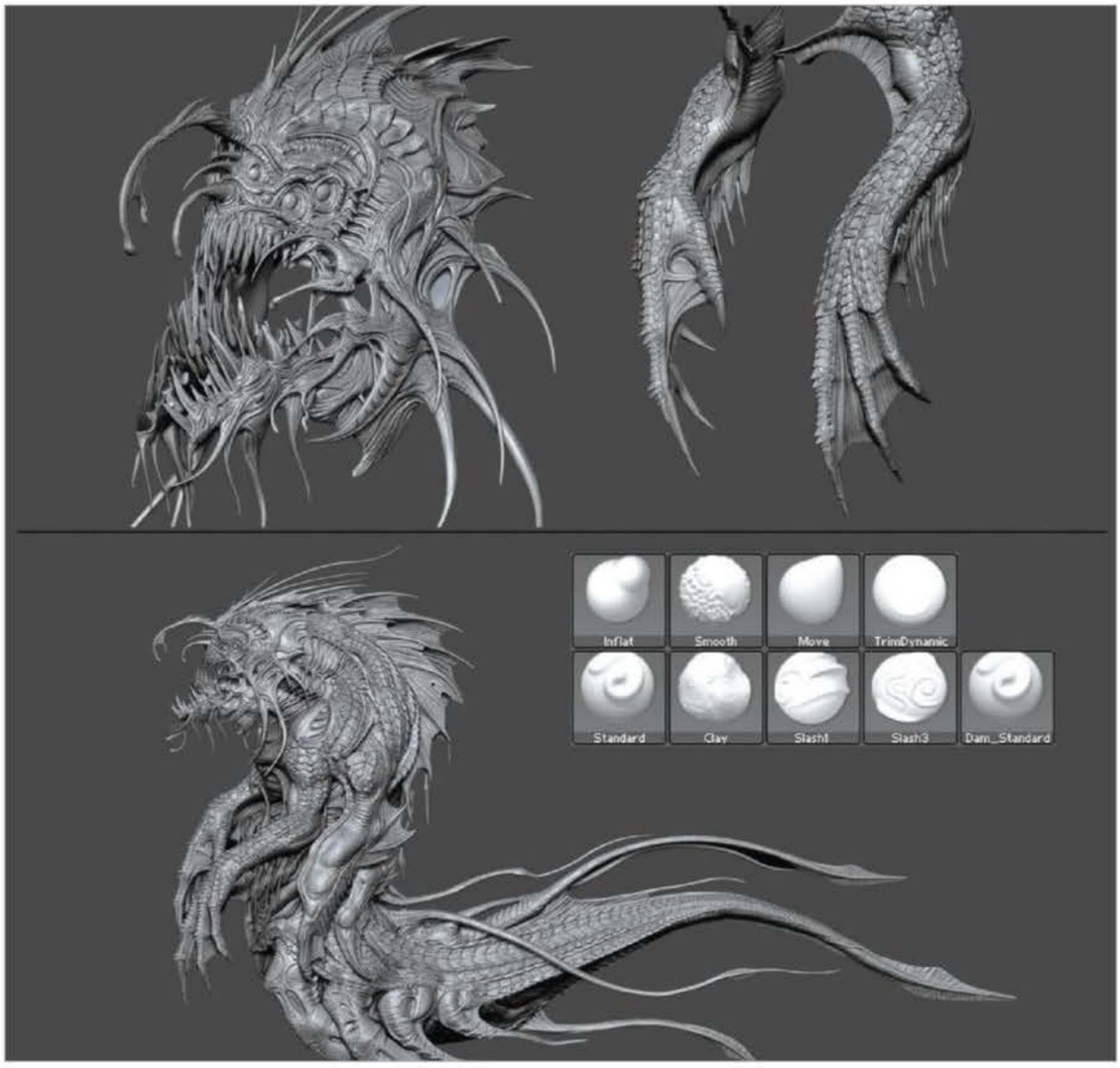


09 Unwrap in MODO Before creating UVs, think about where we want the texture seams to be and which objects are going to share the same UV space. I decided to go for a maximum of 4096x4096 texture maps as they have enough density for the targeted render resolution. Larger texture maps would lead to longer loading times and slowdowns while painting. The torso is the largest object and therefore it needs to be split into nine individual UV patches. The scales are packed together with eight to 20 scales in each group, depending on their size. Here a texture resolution of 2048x2048 per group is enough to reach the desired detail level. Unwrap and import back into Maya for the next step.

Stay clean

When working on a large project like the this, think about what could be done in advance to stay organised and efficient in later stages. Before creating any polygons, start thinking about the targeted geometry resolution, which pieces are going to be separate, which parts are visually more important for the later render and which need extra attention. During the modelling process we'll be working towards these specifications. Having a proper naming convention is helpful to maintain the overview of the scene as well as the project folder and to quickly track down objects that could cause errors. It also makes it easier to transfer objects between applications and ensures a smooth texturing workflow for the 100+ parts that the creature model is built out of.

10 Sculpt finer details Use ZBrush to sculpt surface details. Each OBJ of the creature model will be imported as a separate SubTool into ZBrush. For objects like the torso, which has multiple UV patches, use the UV Groups option in the Polygroups palette to assign a Polygroup to the parts of the mesh that share the same UV patch. This is going to be important for baking Displacement maps. In this project, the brushes that I frequently used for the model were the Standard brush, Clay brush, the Slash brushes, Dam Standard and Inflate. To keep the sculpted details consistent, stick with one type of detail and finish it on all parts of the model before introducing new detail patterns. In areas where the pre-modelled scales needed to blend smoothly with the underlying skin, sculpt in scales to create the desired transition.





Texture painting

Use maps and layers to texture the Leviathan

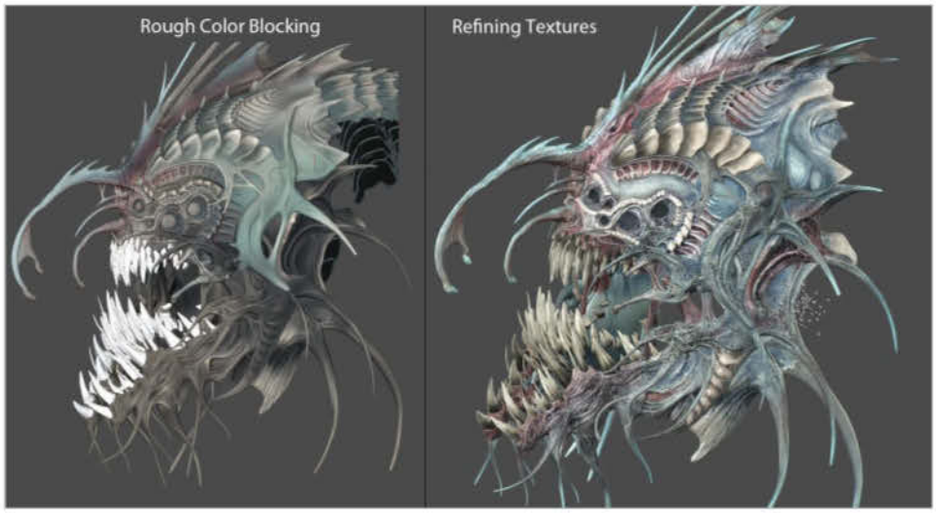


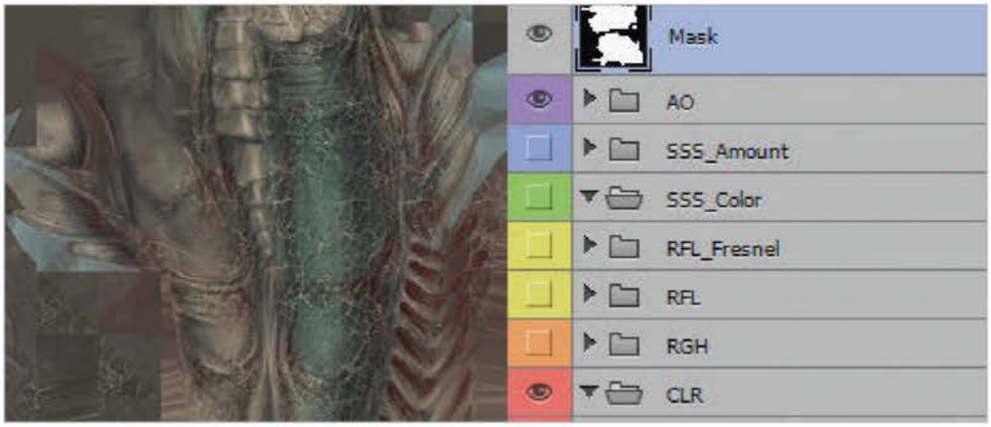
11 Create additional Bump maps The Displacement maps provide the necessary detail pattern and density when looking at the model from a distance. To visually support the huge size of the creature with an appropriate detail hierarchy, it's worth adding a Fine Detail layer on top using additional Bump maps. When zooming in closer to the creature's body, the Bump maps reveal the little details like pores, barnacles, wrinkles and other patterns. First, create a set of tiled grey scale maps using Photoshop. In MARI 2.5, the Tiled Procedural layer should be used to spread the maps across the model. By painting on the layer mask we can control the strength and visibility of the details. This process was used to create five different types of skin detail, which were then combined together into one Bump map.

Cavity maps

To have a guide while texture painting and so that you can bring some detail back into the individual textures, create a Fine Cavity map in ZBrush. The method that I use is quite old but still very effective. Choose the stock ZBrush MatCap SketchShade4 and import the particular Displacement map as an Alpha. By using the Crop and Fill Function (Alpha>Transfer>CropAndFill), ZBrush will generate a flat map based on the height information of the Displacement map and the MatCap. This method tends to work best if the Displacement map is configured to have around 50% grey as no displacement.

12 Block out colour After importing the creature into MARI and setting up all shaders and layer stacks, begin roughly blocking out the basic colours for the creature. As the beginning of this texturing process is very experimental, don't use more than three different colours. The goal is to find a fitting colour scheme, pattern and hierarchy. Instead of painting on empty layers, use colour constants with masks, which will enable you to edit colours and patterns separately. Along with MARI's masking and adjustment stacks, the colour blocking process will become very flexible and less destructive. Once satisfied with the basic layers, move on to the next level of detail. We'll work with the tones of the existing colours and use a variety of organic brushes and MARI's procedural layers to add more variation to the skin and to blend between different colours and patterns.





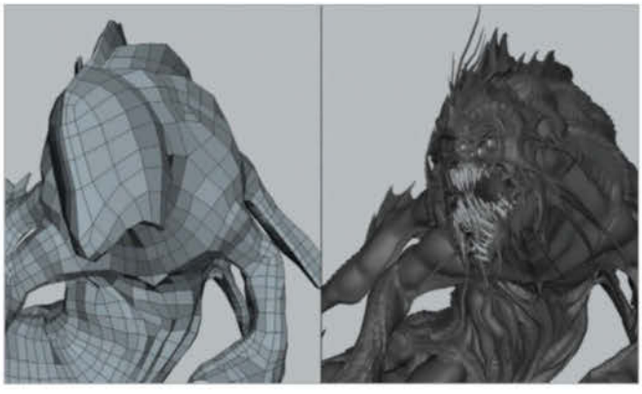
13 Take it into Photoshop For final texture edits and creating maps like Roughness, Reflection, Normal/Bump and SSS layers, set up a PSD work file for each piece of the creature model. The image to the right shows the Photoshop hierarchy of one of the arm textures. The MARI pass is the base, while all additional texture edits are added on top in a group called Painting. Use the previously generated Bump maps as masks for more texture detail and to make them pop out more in the final render. To bring back details of the high-res sculpt, we will generate a Fine Cavity map in ZBrush and blend it very lightly on top of the Diffuse.



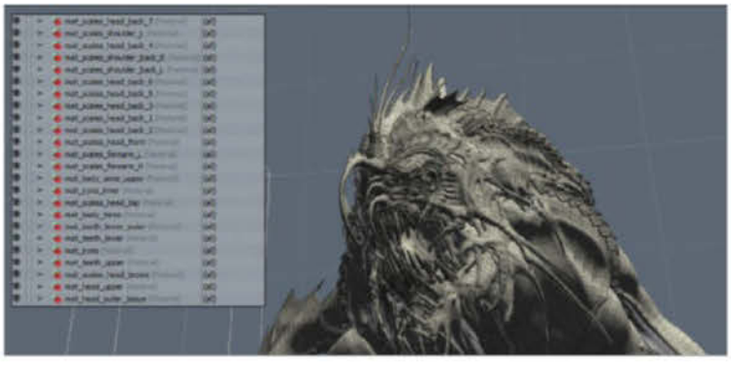
Final rendering

Pose and render the final composition

14 Pose the creature We'll now create a low-resolution representation of the model to be used as a rig mesh and as a driver of the high-resolution geometry. This will make posing a lot faster as we won't have to deform a multimillion polygon model. After posing the low-res mesh, switch to the high-res geometry to see the results. The rig consists of a simple FK driven joint hierarchy, which is sufficient enough to pose the Leviathan for the render scene. Once happy with the pose, export all objects into MODO using a Batch Export script. In MODO, polish the pose by fixing deformation issues and distortions caused by the skin weights of the rig. For this task, MODO's Sculpting tools will come in handy.



15 Set the scene in MODO The model consists of 100 parts. Each has its own material, which is named after the object it's assigned to. This helps to control the overview of the large Shader Tree. Before loading in any Diffuse, Roughness, Reflection or other maps, do some test renders to check the Displacement and Bump maps. Regions with UV seams need extra attention as they can cause artefacts when displacing, or show cuts in the Bump or Normal maps. Once the Displacement and Bump maps render cleanly, continue adding other texture maps. For lighting, use an HDRI to provide the lighting information of an ocean storm scenario. To create the rim light effects on the creature's left side, add an area light at the appropriate position. Another area light can be added to emphasise the specular highlights caused by lightning..





16 Render passes When working on the final composition, it's important to be able to edit individual objects through masks, so you can adjust highlights, reflection and depth, or to tweak intensity and brightness of each light. In order to gain full control over the features of the final image, render out a number of passes. Next to the standard ones like Beauty, AO and Depth, render a pass for RGB Lights, Object Space Normals, Reflection, Specular, Shadows, RGB Masks, Fresnel and fine AO. By disabling all the Bump maps, we'll render an additional Specular pass of the highlights only caused by the Displacement maps. This will enable us to adjust the bigger highlights of the skin and scales. The image above shows some of the passes I rendered for the final composition.

To end

Working on a project of this scale can be quite a challenge, but it's also good training as it covers multiple disciplines of the design process, from modelling, sculpting and texture painting to shading, lighting and rendering. You also learn how to stay organised and think ahead. Breaking this project down into smaller steps made it easier to plan and was therefore more feasible.

17 Tweak the final composition Using the previously rendered passes and adjustment layers for colour correction like Brightness/Contrast, Color Balance, Hue/Saturation, Curves and Levels, we'll end up with a base version of the composed image. This is going to be the starting point for the final touches in Photoshop. The background is based on Cloud layers in combination with Custom Cloud brushes. For the water splashes, experiment with different types of Noise layers as well as Water brushes. Render passes allow for a lot of experimentation when creating effects and tweaking the image. The Depth pass can be used to create a depth of field effect or as a mask for a Saturation adjustment layer. The fluorescent lights can be used to draw the viewer's eye to the face, as they are the only objects with a glowing turquoise colour. Flipping the image horizontally from time to time is a good way to refresh the eyes and to spot composition issues.



Design & model sci-fi creatures

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Ben Erdt

Personal portfolio site **www.ben-erdt.de**
Country **Netherlands**
Software used **Maya, 3ds Max, MODO, ZBrush, MARI, NUKE, Photoshop**
Concepting and producing both hard-surface and organic models.

Lukruk – The Thelarian Elite 2012 **Maya, MODO, ZBrush, MARI, NUKE**

"Here I'll discuss how I created a highly complex and functional armoured alien character, from concept through to final vision"

Ben Erdt Professional artist currently working at Guerrilla Games

Lukruk is an armoured alien character I created as an exercise at Vancouver Film School. During this process you'll get an insider's view of his creation from the first spark of inspiration to the final render. By the end of the steps you'll have a full understanding of how Maya, MODO, ZBrush, MARI, Photoshop and NUKE can be used.

Lukruk was a very complex project from both a design and technical point of view, so here you can get a closer look at how to design and build complex characters with rigging and animation in mind, without compromising the original design intent. I'll also share my approach for keeping clean topology for efficient subdivision, rigging, texturing and rendering.

This project was a great learning experience for me in fields such as design, modelling, texturing, rigging, animation, rendering and VFX, as well as how to collaborate with other disciplines. I hope the little nuggets of experience shared here will help and inspire you with your own characters.



Make a concept

Develop who and what your character is



01 Turn inspiration into a concept I imagined a futuristic knight standing on a high platform. Since he's extra-terrestrial, I wondered what if an alien race – after their first contact with mankind – became inspired by human history, especially by stories about the Knights Templar and the samurai. If they used their superior technology and created their own group of protectors, what would a member of this group look like? I imagined them as characters who are spiritual, intelligent and serene but also as powerful and unpredictable creatures. Only their strongest hatchlings are selected and Lukruk was one of the chosen.



02 In-depth design As the head is the focal point of the character, I wanted to make sure Lukruk had a very expressive face and attitude. I wasn't happy about the first iteration, because he didn't look as powerful as I wanted so I made his head more angled and sharp along the jaw. The argus monitor lizard was a great reference for this. The elongated cartilage tips on Lukruk's chin further helped to emphasise the shape of the head. To counter the aggressive features of his design a little, and add some conflict, I gave him two small ears.



03 The body and armour Lukruk's armour was designed to be functional and built for protection, but it's also supposed to have a bit of an elegant and ceremonial touch that comes through the curved lines and shapes. Because I imagined the model having lots of detail, I figured a more humanoid silhouette would be better to read. When putting on the armour, the longer tail was supposed to be a mechanical extension that could be used as a weapon. As a reference for his facial expression and attitude, I referred to heads of birds of prey such as eagles and hawks. For the hard-surface parts of the armour I collected images of sports motorcycles, CNC machine parts and landing gear – incredibly useful reference when approaching design as functionality.

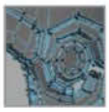


Source files available

- Video tutorial of baking Cavity maps in MODO
- Video tutorial showing tips for symmetrical modelling in Maya
- Video tutorial on rigging by Amir Ronen

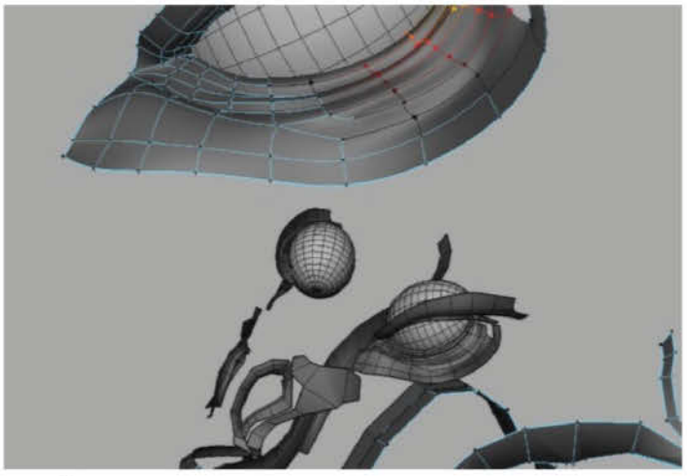
Concept

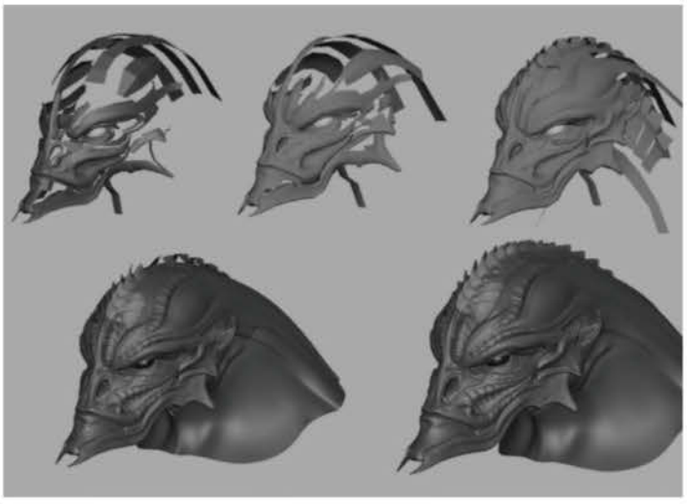
Inspired by the unpredictable-looking reptiles such as tegus and iguanas, the spiritual feel of Gregorian chant, the armour of the samurai, as well as the Knights Templar, I decided to create Lukruk, an armoured alien lizard knight.



Work on the model

Begin sculpting in Maya



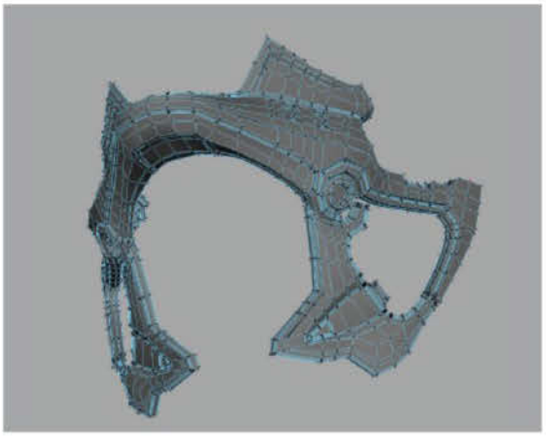


04 **Work on the head** Starting out in Maya, I always begin modelling the head because it's the most important part of the figure and can determine the look and feel of the character. For example, a bulky head with a fat neck would make me expect an appropriate body to support it. I start with the eyes first, placing a polySphere at the position where the eyeball sits and scaling it to fit. For shaping the eye socket, I usually start with a single polygon and work my way around the eyeball. When beginning work on a model, start simple, as too many polygons can make any fixes later on rather difficult and time-consuming.

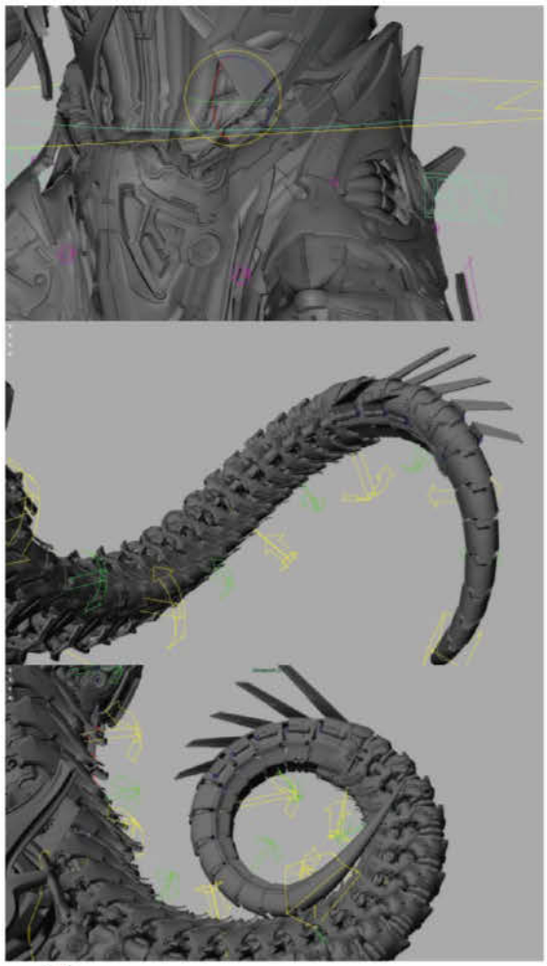
05 **Refine the head** After blocking in the eyes, I move over to the mouth, ears, lips, the jaw and the bony structures around the head. The goal is to create the individual facial features first and stitch them together at the end. When they are separate, it's easier to move them around and adjust the head proportions. With the eyes filling the spaces in between, you can already see what the proportions and volumes are going to be. Above Lukruk's eyes I created a row of eyebrow-like scales, which help when conveying emotion.



06 **Model the body** When modelling the body I followed the same approach as for the head. I started modelling, then tweaking very rough representations of the features to build the correct silhouette, shape and volume. In order to manage the amount of detail in the original concept art, I broke it down to primary, secondary and tertiary shapes using colour coding. During the modelling process, I needed to determine the large and small shapes, as well as where they join or overlap one another without constantly referring back the original concept work. The chest was one of the more complex pieces, so I wanted it to fit as neatly as possible. Since everything else was proportionally correct at the end, the chest was very easy to add in.



07 **Efficient topology** To avoid inefficient geometry, the topology was created to look nice and smooth, with a maximum of two subdivisions, though most of the pieces needed only one. The overall rule was to have complex forms and shapes with a decent amount of polygons for each object. In effect this made life a lot easier for later unwrapping and texturing all the pieces. Always try to stay as clean and efficient as you can and it'll pay off later on.



08 The model versus the rig Making sure that Lukruk wasn't only functional in design but also in terms of articulation was a challenge, so I gave extra focus to areas that were most visible and complex. One of the more complicated parts was the waist, as the tail, shield flaps and legs all come together in this region. To avoid individual armour parts touching or interpenetrating one another, I used a basic proxy rig while modelling to ensure any changes made improved deformation as well as design. Instancing geo here also served to improve iteration times. To make the tail believable and to maximise the range of movement, its inner core was based on a row of single vertebrae inspired by the chameleon – one of the few lizards that can completely roll their tails. This dynamic tail is key to Lukruk's personality and body language.



09 Sculpt skin details ZBrush was used for detailing the head. As for reference, I chose images of crocodile skin to create a smooth transition between the separate scales and skin. Greek turtles have a noisy scale pattern on their neck that I used for inspiration when sculpting the softer skin parts on the character's face. I used the Clay brush to block out scales, then while sculpting in the surface details I kept the design of his head in mind, making sure the details didn't overwhelm the overall aesthetic. The Slash2 brush was used to sculpt in some overlapping scales, while the Slash3 and Dam Standard helped to emphasise the crevices in between. The Inflat and Standard brushes add more volume to the fleshier areas, while hPolish was used to break some of the hard edges of the scales. Once happy with the result, I rendered the Displacement map inside ZBrush. Here I chose an 8,000 pixel-sized map to have an opportunity for a higher-res detail pass in MARI.

A clear end goal

It's important to know the end purpose of your creation. In this case the character was a production model for a short movie. At the end we were going to need many high-res textures, as well as a complex mesh with lots of individual pieces that were going to be rigged and animated, but we also wanted to keep the render times as short as possible. I thought about what could be done in advance in order to stay efficient without compromising quality. For example, adding simple colour shaders while modelling can help to get a better overview of the shapes and details. Also step back and see if the model still fits the concept art.

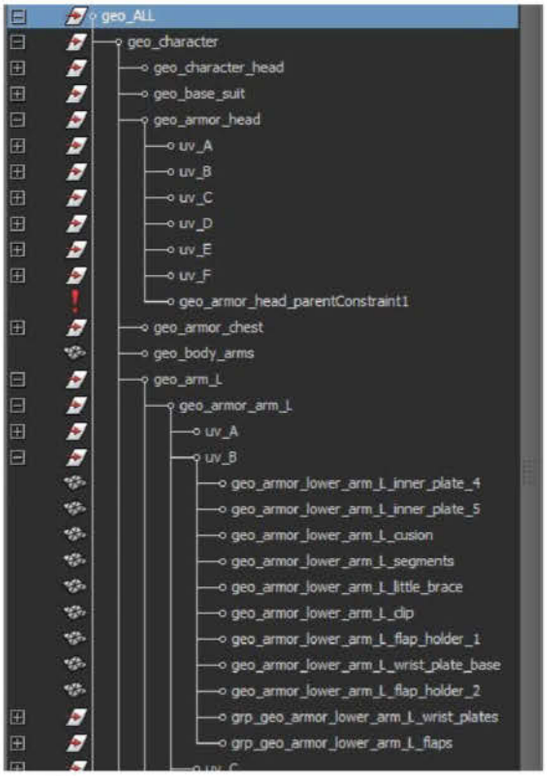


10 Sculpt skin details Before jumping into MARI I wanted to make a colour concept for the head to get a better idea of the possibilities therein. I rendered out basic passes – AO, Depth, Shadow and two Light passes – using the BPR Render in ZBrush, just as a base to paint on in Photoshop. Once they were composited I started to build up the skin, while each group and layer represented a paint step for the skin. As a result I had a clean layer structure that was going to be rebuilt in MARI to achieve the textured look.



Clean up the scene

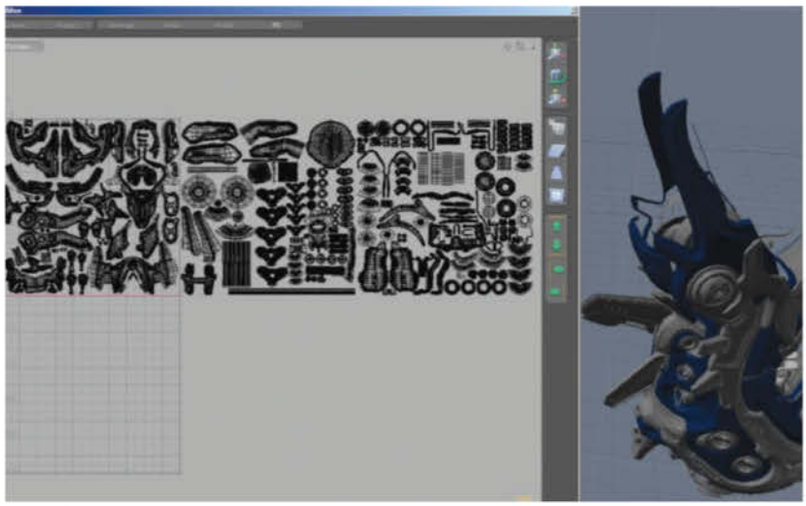
Prepare and unwrap the geometry for the next stages



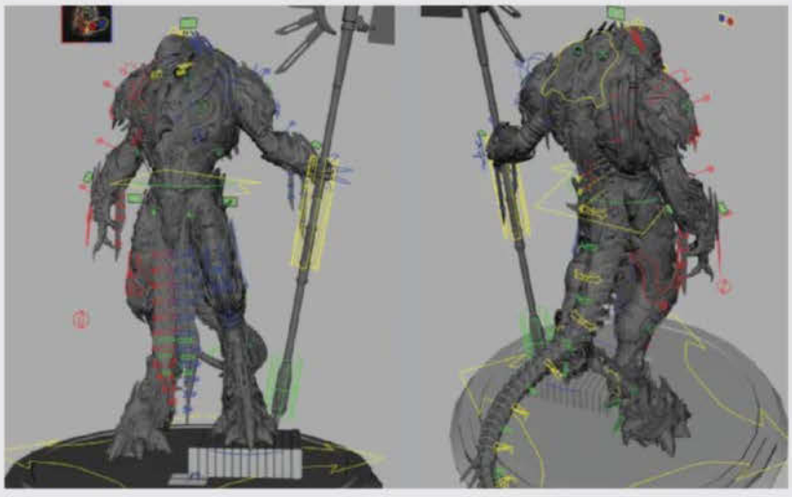
11 Sort and name the pieces In order keep the amount of potential issues low later on, it's important to keep a clean scene. I went through the scene hierarchy and deleted nodes such as empty groups, duplicates, unused nodes and so on, to make sure there was no excess left that could cause problems at a later stage. All geo objects were sorted according to the design hierarchy of the character. For example, everything in the left arm was contained in a Group node. Individual objects were then grouped separately according to their visibility, size and shape hierarchy. Each group represented one quadrant in UV space, which was the foundation for the UV-layout and texturing process.

Complexity demands organisation

Lukruk has an extremely complex hierarchy. Counting meshes alone, around 1,800 different objects needed to be named, grouped, organised, unwrapped and laid out efficiently in UV space. A clean scene is vital to making your life and those of your colleagues easier. Clean UVs within a good layout are half the texture job and even riggers can benefit. I decided to unwrap everything in MODO because I was going to bake Cavity, Flat, Diffuse and RGB maps in it. Switching applications also brought a bit of variation into this tedious process as I like using a Cintiq when working inside MODO. When it comes to polygon-modelling, especially, this is one of the most artistic methods I have found.



12 Unwrap all the pieces I exported the pieces as individual OBJ files for UV-generation, plus the MTL file to keep the assigned colour shaders inside MODO for later texture-baking. The tools I predominantly used were UV Unwrap, Relax UV and UV Peeler. Unwrap and Relax are helpful for generating and refining UVs of shapes that are more organic and curved. The UV Peeler is a fast tool to unwrap pipes and hoses. For simpler shapes that are more cubic, spherical or cylindrical, I used the UV Projection tool as a starting point, as it offers appropriate projection types. The screenshot shows the finished UVs for a part of the foot.



Collaboration is key

This project was a shared effort between several people, with Amir Ronen performing rigging and secondary animation, Colin Giles completing primary animation and myself responsible for design, modelling and texturing. We shared and referenced the main rig as a master file that was frequently updated with rigging information by Amir.

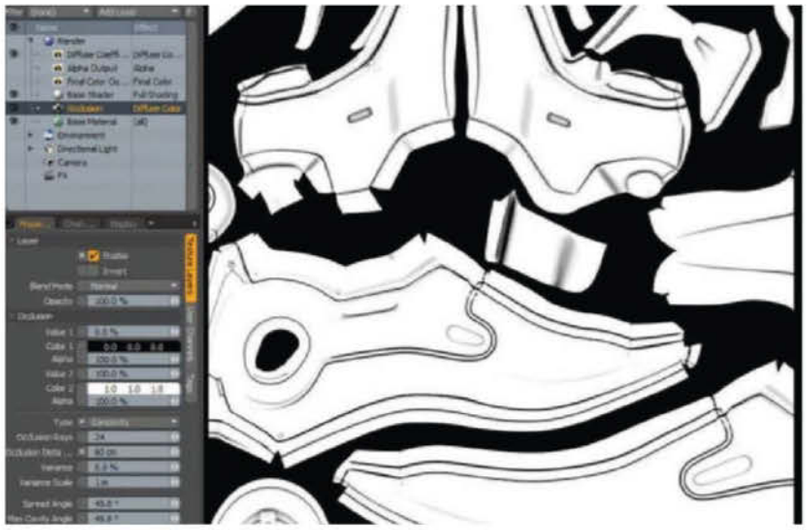
When Colin, the animator, started blocking out the animation, I could work on the textures and shaders. In order to stay on course, we had regular meetings to discuss our progress, the next steps in the work, and to discuss any current issues that might have arisen.

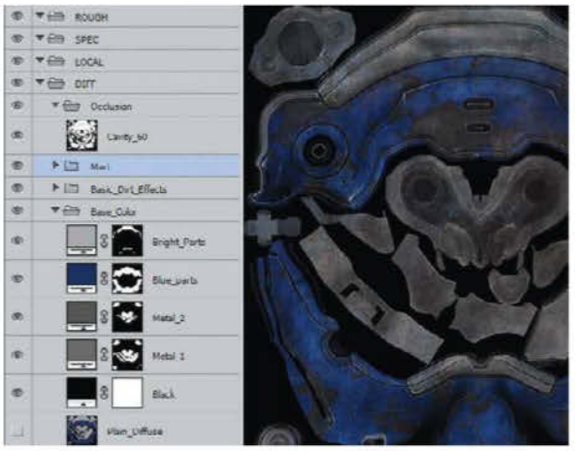
Supplied with your free resources, you'll find several video tutorials from Amir Ronen (www.amirronen.com) who generously provides an in-depth look at his own rigging workflow.



Prepare textures

Enhance and refine the character





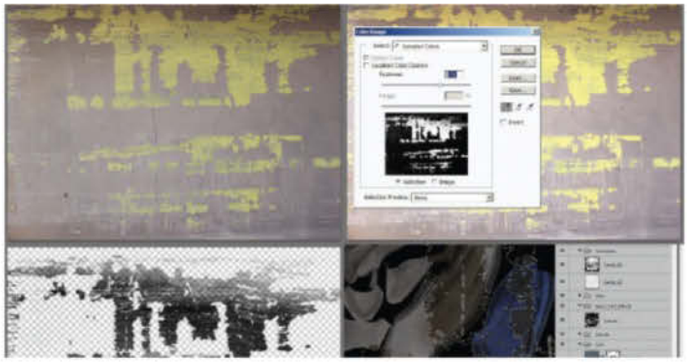
13 Cavity/Convexity maps in MODO Since I was going to texture the actual high-res character mesh, I used Cavity maps as a guide for painting textures. These were baked inside MODO using the Occlusion shader. They also helped to bring back some detail into the Diffuse texture. In MODO I added the Occlusion shader to the Shader Tree and set it to Concavity with a Max Distance of 60cm and a Spread Angle of 45 degrees. I created another Render Output, set it to Diffuse Coefficient and made sure the Diffuse Amount inside the base material was at 100%. The desired texture resolution for the particular object was set inside the MODO Render Properties. Remember, baking these maps in MODO using the Occlusion shader takes some time. On your disc you'll find a step-by-step video guide for baking Cavity maps.

14 Begin authoring textures After unwrapping the entire character model, I ended up with almost 50 sets of four to five textures, so it was important to maintain a consistent workflow. The hidden Plain Diffuse layer was used as a selection guide. The Dirt Effects group slightly broke up the flat colour among all the textures and added overall dirt and grime to the character. The MARI group consisted of object-specific layers that were painted in MARI 1.4, although this workflow was improved thanks to MARI 2's full PSD support. Additionally, to make the final character design easier to read, I made his feet more muddy, while reducing this effect higher up his body. This resulted in a light colour gradient from bottom to top. I also focused more on areas that look worn-out and used in order to add a bit more history to his armour.



Render and post-production

Finish with tiny details and complete render passes





15 Include dirt and paint chips Alongside some hand-painting, I also used photomanipulation for texturing Lukruk – something that increased his sense of believability. A great source for photo textures is www.cgtextures.com. In order to add paint chips to the character, I chose a texture with a high contrast between the paint and the areas where it had faded. I created a selection using Color Range and used it as a mask on a solid colour layer. This enabled more control if I needed to change the hue, saturation or brightness. Back in MODO I then baked an additional Cavity map with a lower range, as well as a Convexity map that was used to emphasise the edges in the roughness texture.

16 Render out passes The screenshot shows the passes that an average shot required. My friend and colleague Andrew Paxson (www.andrewpaxson.com) was in charge of compositing and adding VFX inside NUKE and he did an amazing job. I wanted to give Andrew as much control as possible over the shots, so to give us the opportunity to tweak the blue parts of the body armour, I took the flat colour textures that I baked before texturing and created simple RGB maps. The result was a pass in which R represented the metal types, G represented pieces that could cause potential artefacts and noise, while B represented all the blue parts of the armour. Staying clean and organised like this from the very beginning saved us a lot of time during lighting, rendering and composition. There was one case during the first render test in which I had a bad polygon causing the Subdivision Approximation to crash mental ray. However, because the character model had an elegantly structured hierarchy, the bad piece could be tracked down and quickly fixed.

Design a 3D alien

The Wraith 2013 **Photoshop, ZBrush**

"Learn how to create 3D cinematic concept art that's good enough for the movies"

Justin Fields Concept artist

Over these steps we are going to be jumping into ZBrush with plenty of reference to create a cinematic creature concept. Within production, ZBrush is an extremely valuable tool. By spending time creating a sculpt, rather than drawing, you're able to create an asset that can be reposed, textured and altered very quickly and easily. This results in multiple angles and visuals all within a single 3D package and means you're able to produce an orthographic view in seconds, rather than days.

We'll use DynaMesh along with standard ZBrush tools to build up all the creature's kinks, wrinkles, muscles and other details. The point of interest of The Wraith is its menacing head, complete with a sizeable set of teeth, so we'll only focus on this once the easier main body is complete.

ZBrush is also a great tool to use in conjunction with Photoshop, where you can achieve great-looking results by painting on top of your renders. This is where we'll complete post-production work on the model.

Source files available

Free tutorial files on the disc

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



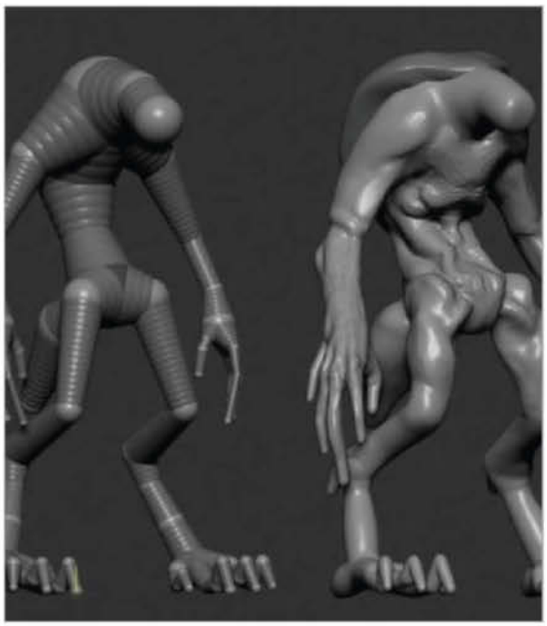
Justin 'Goby' Fields

Personal portfolio site **www.justingobyfields.com**
Country **USA**
Software used **ZBrush, Photoshop**
Concept art for films and games, including creatures, characters and environments.



Establish a base

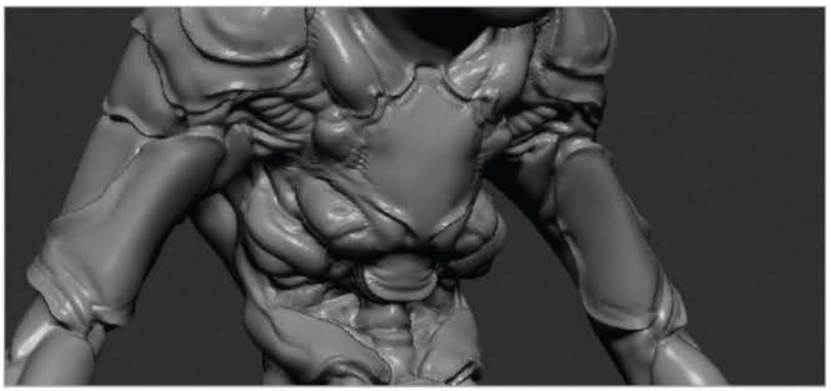
Build your concept using simple shapes & ZSpheres



01 Use ZSpheres as a starting point After gathering reference and figuring out what the main goals are for the concept, we'll start building the creature using ZSpheres. Sometimes in production it may be faster to begin with a preset base mesh from a previous sculpt, just to speed things up. Here we'll be starting from scratch to see what the overall look will be. Once we have the proportions right, we can break the work into separate SubTools and then move to DynaMesh.



02 Reference is key Keep a collection of images on another monitor to constantly refer to and keep the design in check. Nature is the greatest tool in any artist's arsenal, so spend some time studying photos. For this project, observing insects and their body parts is useful.



03 Don't rush things We'll need to spend a lot of time detailing the head, so we'll save this until last. At this stage, staying at a lower subdivision level will help us make major design changes fast without the sculpt getting too loose. Try to keep major elements as separate SubTools so you can really subdivide and get some great details.



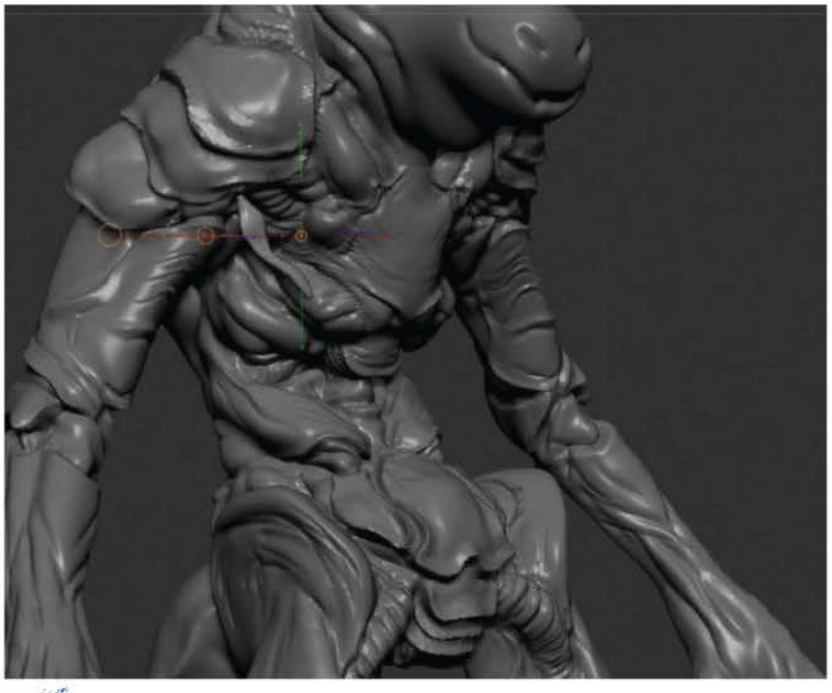
Concept

With The Wraith I wanted to focus on an insect-style monster with elongated limbs and a multi-jointed mouth to give him some intimidating features. Adding more aggressive shapes also helps create a frightening alien concept.



Create a dynamic concept

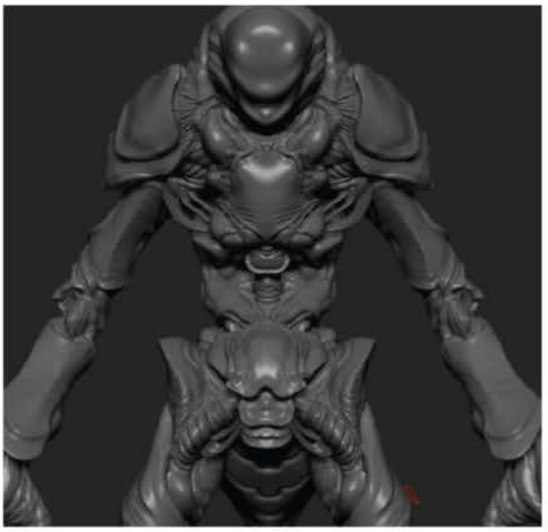
Take your time, choose your plan of attack and stick to it



04 Develop shapes & form Going up in subdivisions now and looking at the references, we'll use the Clay Buildup brush to establish the broad outline of the creature. Once this is done we can really start to plot out the concept, and smooth and cut into the flesh of the model. When working as part of a team, make sure you consider the artist you'll be handing over to. Digital is limitless, but it's worth keeping in mind that someone else may need to fit inside your design. For most of the organic sculpting we'll use variations of the Dam Standard brush plus various stock Alphas in ZBrush. You can also use the Standard and Clay Buildup brushes at a very low pressure to blend in and out of shapes.



06 Begin work on the head After adding the head we'll use DynaMesh and the SnakeHook brush to pull out some interesting shapes. Following the same steps we used on the body, quickly lay out the shapes and detail them. We can add eyes early on, then test different shapes and sizes to see what looks best. After these are in place, make sure that the underlying shapes support the sockets to give the head a bit more character.



05 Tighten up the graphics Now that we have a lot more digital clay to push around, we can really dive into some serious detail. Using some of the same techniques from the previous step, we'll continue to refine detail and define the interesting shapes. We can also start laying the groundwork for wrinkles, edges, creases and apexes. The final pass of detail will make your work much easier.

Sculpting heads

Depending on the concept, I like to wait and leave the detailed sculpting of the head until last. Sometimes I also take what I have so far, drop it in Photoshop and do quick paint-overs to get a few variations. This way I can see which direction I want to take the final sculpt in.





Build up the features

Apply details & choose an active pose





07 **Layer on textures & fine detail** Try to keep your design grounded with areas of rest and subtle textures. Experimenting with stock Alphas and different brushes in ZBrush, as well as pressure, is a really great way to learn just what the tools can offer a project. Using LightCaps to see how light is affecting the surface of your creature may also affect some of your design decisions.

08 **Play with tonality** Colour can drastically change how your design is perceived. Try choosing a flat colour and airbrushing variations in to slowly build up the tones. Masking out the cavities and adding some dirt always helps to make your designs 'pop' as well.

> "Colour can drastically change how your design is perceived. Try choosing a flat colour and airbrushing variations in slowly"

Save time with Alphas

It's worth spending time making and collecting Alphas. Pixologic has built a large collection of stock Alphas into ZBrush to choose from already, but it's also very easy to use Photoshop to build up your own collection for your personal sculpting needs. To create Alphas in Photoshop, simply create an image at 1,024 x 1,024 pixels and desaturate it to get a high-contrast, black-and-white image. If the image has edges, you may want to darken these gradually with a soft round brush – this will make it easier to work with in ZBrush. Simply save your Photoshop image as a JPG or PSD and import it into ZBrush through the Alpha palette.



09 **Pose the character** Since a stagnant pose is a good way not to get your design picked by clients, we're going to add a slight variation. Usually it's a safe move to turn the head slightly and shrug the shoulders to mimic a bit of action. Using the Transpose Master plug-in here is a godsend, as this will keep all your SubTools in line with the model while you pose it. Hit the TposeMesh button, then after posing hit the Tpose>SubT button and ZBrush will align all of your SubTools with the posed mesh.



10 **Turn off Symmetry** At this point we can add further detail without the Symmetry function turned on to give the design some love. Get in there and add various details and wrinkles. This step helps make your design unique by adding variation, so take the time to really consider what you're applying where and always keep your goals in mind.

11 Choose your angle Get ready to start the composition by finding your favourite angle and locking that in the camera view via the ZAppLink properties. Some of your details will inevitably get lost in the view that you choose. However, if you need a different pose, all you have to do is repose and re-comp, rather than go back to re-sculpt detail that isn't there. Having detail in there and not needing it is better than needing and not having it.



DynaMesh means freedom

Using DynaMesh in conjunction with extractions frees up a lot of technical modelling issues and enables limitless creation possibilities. Pixologic has really broken the creative barrier with this solution, as well as the Insert brushes. Using these in production has made me a faster artist and has provided assets for the pipeline that can be used again. Seeing how a practical design studio builds and replicates props has really opened up the worlds of kit-bashing and production modelling to me.

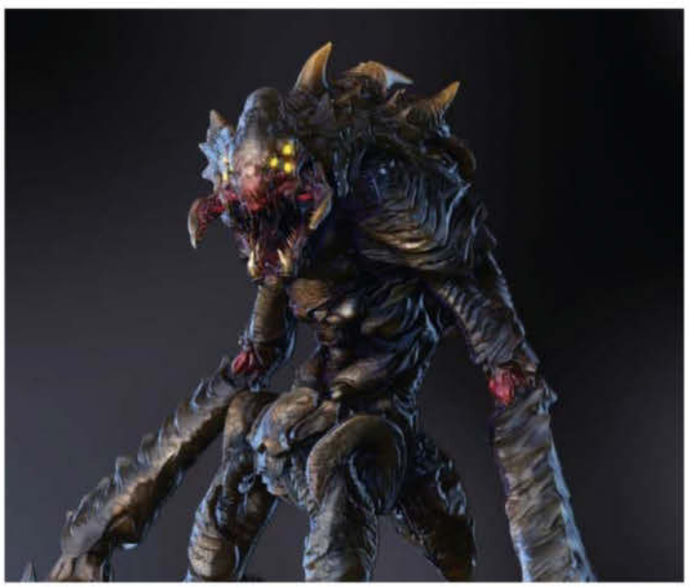


12 Render your creature After establishing the lighting and BPR settings, we'll begin rendering out the passes for post. We'll get the basic passes out of the way so we can play with some options for use in Photoshop. After this we'll get various light passes for fill and rim lights.



Bring it to life in Photoshop

Move to post-production and refine your creature



13 Final composition When you have all of your render passes, take them into Photoshop and lay them on top of one another. Putting the flat model pass first, we can begin experimenting with blending layer options. This can vary with every piece, so use your artistic eyes and see what works best.



14 Add some atmosphere Painting in Photoshop now, this is another fun stage of the process. In this step we can drop in a few gradient spotlights to mimic the light setup and blend the alien into the background. At this stage you can also opt to drop a photo into your backdrop – just remember to match the perspective of your character.

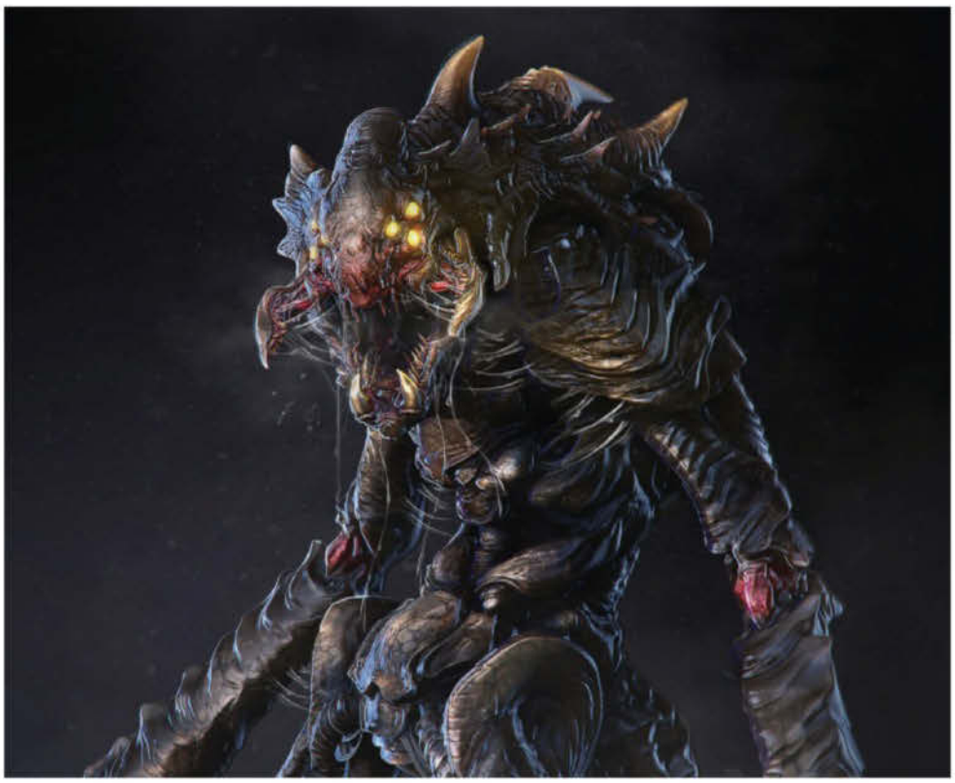
15 Adjust with layers Being confident in Photoshop will help at this point as it's key to make changes in a non-destructive way. Using masks and adjustment layers is vital in production, as this way the changes aren't permanent and each can be developed to suit your art director's various demands. Another valid concern is that you may not be the only one working on the piece, so make it easy to edit, label those layers and keep it clean. Because you have to keep things organised and non-destructive, you will probably end up with a few hundred layers while building up your post effects and painting on top of your render.





16 Add final details Now we can start painting in some detail work using photo overlays of textures. Complete some final touchups and effects, but take the time to blend everything properly. The time you spend at this level really ties the piece together.

> Because you have to keep things organised and non-destructive, you will probably end up with a few hundred layers



17 Make the finishing touches Now we can add in a small vignette and a little chromatic aberration to help prevent the creature from looking like a 3D render. We can also add a little noise to break up the image.

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Danail Nikov

Personal portfolio site
http://didom.cghub.com
www.behance.net/didom
Country **Sofia, Bulgaria**
Software used **Photoshop, ZBrush, 3ds Max, V-Ray**
Danail Nikov is a freelance 3D artist working in advertising, for movies and on personal projects

Concept

I've always been interested in the nature around us. Why do hummingbirds fly backwards? Why do flies have compound eyes? How come sharks don't have bones?

Nature is a mystery that inspires my work. With this project, my goal was to create a nonexistent animal, combining the characteristics of three different creatures already present in our natural habitats. Even though they are all completely different, they all, rather remarkably, share something in common.

Develop fantastical animals

Source files available
Tutorial files on the disc

Chagirro 2012 **Photoshop, ZBrush, 3ds Max, V-Ray, UV Layout**

"Learn how to create hybrid creatures, combining various species from the animal kingdom"

Danail Nikov 3D artist

The concept of cross-evolution is a great area for provoking and inspiring your imagination in your 3D art and design work. The animal I'm creating for this tutorial – using ZBrush, 3ds Max, V-Ray, UVLayout and Photoshop – is a mix of a chameleon, a flower and a giraffe. I've chosen this bizarre combination because a chameleon is adapted for climbing and hunting; flowers attract insects; while a giraffe can catch food with its extraordinary tongue.

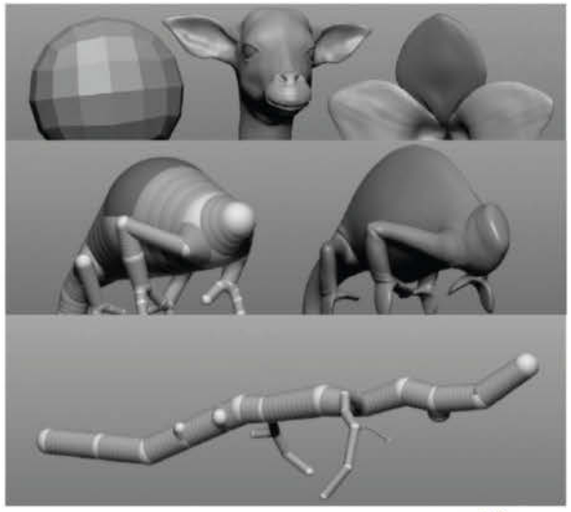
In this tutorial you will learn how to combine objects, compose a scene, retpopologise in 3ds Max and pose using animation tools.

So let's experiment with some different objects and methods to create a fantastical hybrid creature.

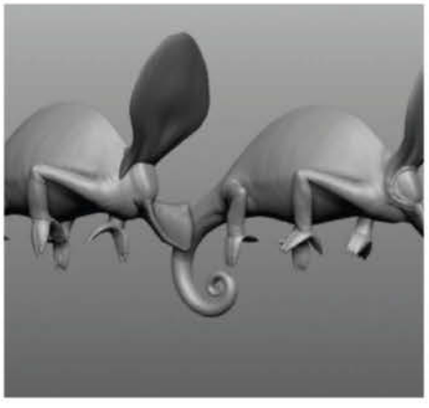


Establish a concept

Forge a surreal idea in your mind



01 Begin modelling
It's good to work with simple objects at this stage as they are easy to manipulate and will provide more freedom to make changes, which is why I use ZSpheres for the body and the tree. To model the other objects I start from spheres, leaving them as separate SubTools at the beginning. This helps me manipulate, transform and change them quickly.

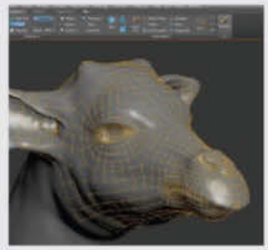


02 Combine the objects
Once happy with the results of my sculpted objects, I can start combining them to form more complex shapes using the DynaMesh option at a low level. When combining the objects, you not only have to think about how to merge them, but also keep in mind that as a complete object the total number of polygons will be much bigger. There's no right or wrong way to do this, so duplicate the objects and experiment. For static images it's better to keep your elements separated, as this will make it easier for you to work on the details.

3ds Max Retopology

For retopology work in 3ds Max I tend to use Graphite tools, which are very easy and convenient. Simply go to the Freeform tab, choose Surface and select the high-res model, where you can put the new polygons. Use Offset to control the distance to be glued on the model. Pull the polygons with Extend and make use of materials for better visualisation of your topology. For the high-res model, choose a Standard material with a darker colour. Use the Standard material for the new topology. Tick Color in Self-Illumination and choose a bright colour – orange, for example. Tick Wire in Basic Parameters so that you will have better visibility of your new topology. This method refers only to the Default Scanline Renderer setup.

I also use Wrapit, which is a very useful and convenient plug-in for retopology, available for free at www.matt-clark.co.uk/wrapit.





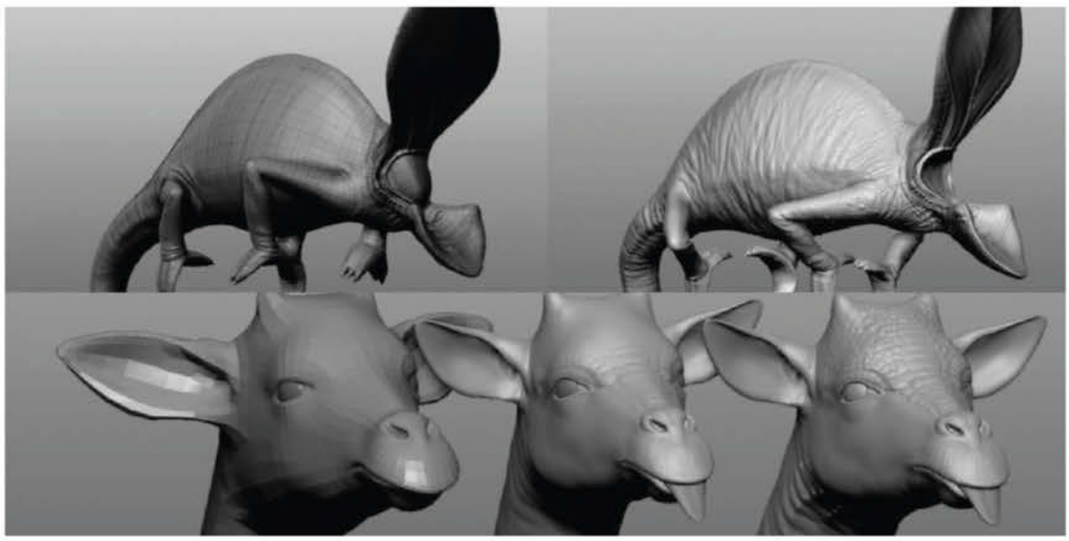
03 Retopologise your model For the retopology process I go into 3ds Max and also open Decimation Master. Set the number of polygons to 50,000 to avoid navigational problems. Retopologising is simple since the model is only going to be used for a static image. I don't need specific topology, but it should be good enough to make the pose of the model.



Add detail & establish a pose

Once your topology is clean you can start to add more details

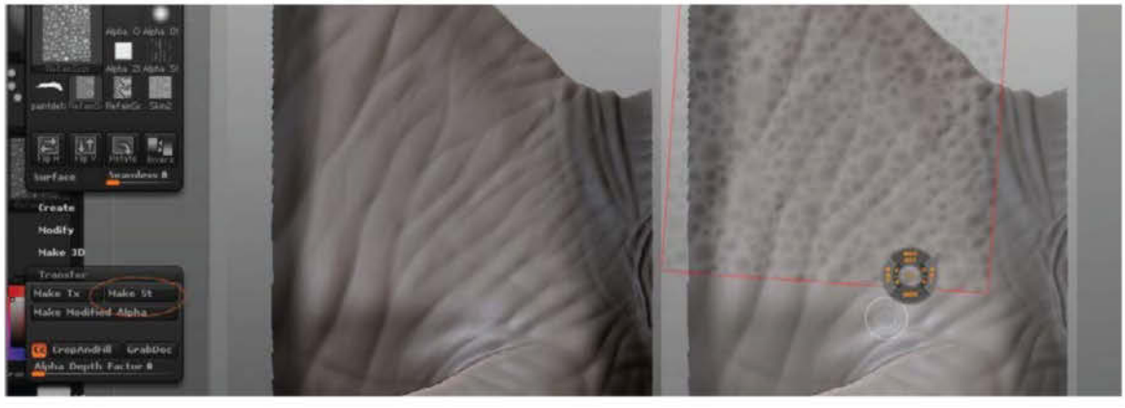
04 Give the model some shape NSince I'm not too familiar with the anatomy of chameleons and giraffes, I have to use references to make sure I get accurate results. Using the Project feature in ZBrush, I can add the details that I want to save onto my new retopologised object. For modelling, I mainly use the Clay Buildup, Move, Standard and DamStandard brushes. I would certainly advise taking your time over the details and gradually increasing the resolution as you progress. Following this process ensures the model stays concise, organic and consequently much more believable.





05 Pose your creature I already have in mind what the final pose of the model should be. When considering this, try to imagine your creature in its natural environment, how it would interact with its surroundings and so on. I'll use Transpose Master to work the creature into a position and choose the Move and Smooth brushes to repair any broken areas, where necessary. At this stage you don't have to be afraid of destroying what you've already done; the model is saved, so be brave and experiment. Once I like the pose, I can import it into 3ds Max to see how it will look in front of the camera.

06 Finish the details For the final details I need lots of polygons, so I'll use HD Geometry. I can choose between two methods: the first is using Stencils with standard sculpting; the second is using Stencils with Projection Master. Both are identical, but personally I feel the latter is better – I've found it very useful while making this creature.



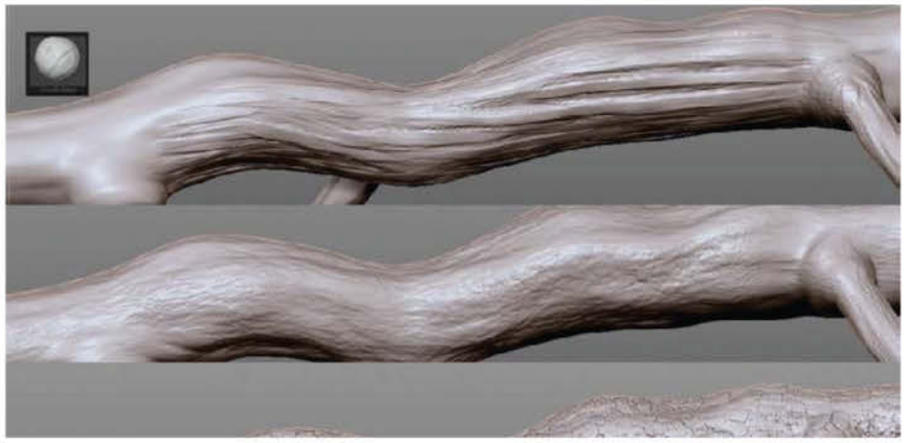


07 Make some lunch To make some lunch for the creature I shape the fly using the same techniques – modelling the basic shape using the standard primitives of ZBrush, shaping with DynaMesh, retopologising with 3ds Max and adding final details in ZBrush. Since the insect isn't the main character I don't need too much time detailing it. Adding some simple hair helps with the realism without too much effort. I create a few hairs in 3ds Max and apply them to the model using the Insert Brush.

Stencils

Here's how to use Stencils using Projection Master:

- Import your Alpha.
- From the Alpha menu choose Make St and your Stencil will appear (A quick shortcut is to hit Opt/Alt+H to turn the Stencil on and off, then hold the spacebar to navigate the Stencil).
- Before projecting the detail it's good to make the morph target so that it will be easier to clean unnecessary parts.
- Pose the model as it's convenient for you and press Projection Master. Then choose Deformation Drop Now.
- When you are ready with the details, clear the unnecessary parts with the Morph brush.
- It's good to vary the effect by applying the Inflat or DamStandard.
- The most difficult part is merging different elements, but it is quick and convenient.





08 Detail the environment To detail the tree I'll mainly use the Clay Buildup brush. On a lower level I make separate lines following the shape of the tree. It's not necessary to smooth these features, as after increasing the level of polygons they will make a great base for smaller details. Next I use several Alphas for larger elements and finish by adding the colour texture to the tree. I do this with the Spotlight tool in ZBrush, then duplicate the texture, use it as a mask and add details using the Inflat brush. I decide to use 3ds Max for the leaves, starting with a plane and continuing with the Shell modifier. Keep laying on finer elements and texturing them in ZBrush. The leaves are thin objects, so you should switch on Back Face masking for brushes, including the Smooth brush.

Texturing tricks

It•s time to map and texture our model to bring the creature to life

Map extraction

Before you start texturing it•s good practise to extract the Displacement and Normal maps from ZBrush. For the Displacement map I set Adaptive and DSubPix at 1 and extract 16-bit maps.

For the Normal map I use Tangent, Adaptive and Smooth UV. For 3ds Max you must check FlipG, because 3ds Max reads the Normal maps this way. You can also extract a Cavity map and an Ambient Occlusion map to give a good base for texturing. Choose Mask by Cavity from the Mask menu, then in Texture Map choose the New from Masking option.

It•s good to keep in mind that Ambient Occlusion masking for models with more than a million polygons takes too much time. The program could crash, so it•s good to save the "le "rst. For 3ds Max, all maps extracted from ZBrush should be V-" ipped in advance.

Create your UVS All UVs for the models are created using UVLayout (www.uvlayout.com). Personally, I "nd this to be one of the best tools for creating UVs, as it•s very easy and convenient to work with. You can "nd a helpful tutorial on how to use this tool on the 3D Artist website at http://tinyurl.com/perfectUVs.

> If you•re not sure about the " nal model you can always make different variants and experiment to optimise the result

Start PolyPainting The main texturing of the creature will be completed in ZBrush. First you should try using a trick I•ve learned to save time: When you have the UVs of your model and the Displacement maps are ready, open your model in Photoshop and get your colour tones established. Save this as a new "le and then open it in ZBrush. By following this method you•ll have a great base for adding the model•s colours. If you•re not sure about the "nal model you can make different variants and experiment to optimise the result. If you have separated large areas it•s good to make them in black and white, then save them on another map so you can remove or repeat later, where needed.

Texture with Spotlight

To texture the tree I use Spotlight. Open the textures you want to use from the Texture menu, then bring them in via the Add to Spotlight button. Turn off ZAdd and turn on RGB. When the Spotlight circle is visible you can edit the texture. By hitting Z on the keyboard you can switch from Edit to Drawing mode and apply your texture. Shift+Z will turn Spotlight on and off.

Sculpt an epic sci-fi terrain

Secret place 2012 **Photoshop, Zbrush**

> Work exclusively within ZBrush to build all the object elements, then move on to Photoshop to perfect your render

Tomasz Stralkowski Digital artist

The idea for this project was to create an alien landscape. One evening I was making sketches on a sheet of paper when I came up with an idea of a deserted spaceship, or maybe only its engine. In fact, it looks like a skeleton of a gigantic, extinct animal. Was this animal specially adapted for the creation of a huge machine or was it a product of evolution? Or maybe it's something else? I prefer viewers to make their own minds up.

In this tutorial I will explain how to create an otherworldly landscape using only ZBrush. With this one program you can complete the modelling, create your own alphas (used to model the scene by texturing), create materials, set up the scene, choose an effective perspective and lighting, and even make your final render. The compositing and colour correction will be finished up in Photoshop. Read on and follow the tutorial to find out how it's done so you can create your own.

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



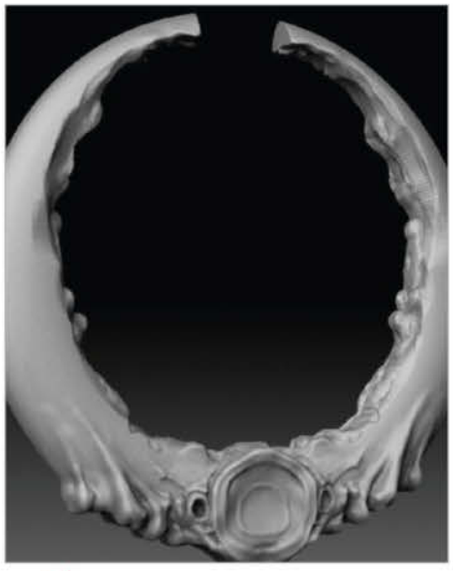
Tomasz Strzałkowski

Personal portfolio site
www.tomstrzal.com
Country **Poland**
Software used **ZBrush, Photoshop Modelling, texturing, lighting and rendering.**



Model the foundations

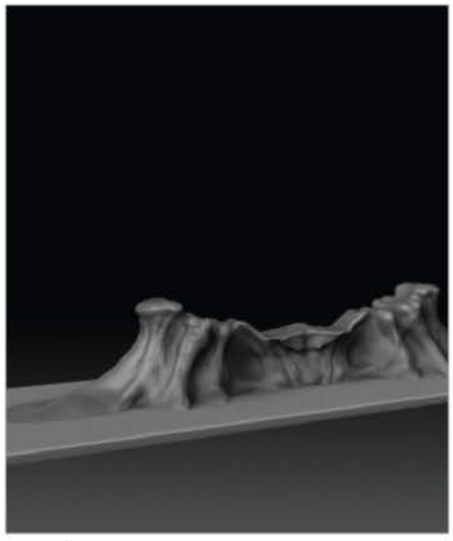
Start with a very basic outline of the whole scene, using simple models



01 Create a base mesh First we will make a base mesh. The first of these is a model of an exterior object similar to skeletal ribs. Use a torus as a base mesh, then the Clay Buildup brush and the DynaMesh tool in ZBrush. Try to make a structure similar to that of the concept. At first it may all look clumsy, but the main idea is to create some base meshes that can be used later to construct the scene.



02 Shape the inner circle In order to get a better 3D preview, try to put together most of the main objects of the scene in the early stages. Next create the inside of the circle. Use the concept to create an alpha with the shape of the interior, then the ZBrush tool ShadowBox to get a flat object, which is a great basis for further modelling later on.



03 Build the basic models Now we'll create the models for the rest of the objects. The base of the circle is modelled with the Clay Buildup brush and the DynaMesh tool. Add a flat box, emulating the ground. Now we need to think over how many parts the main model will be made up of and divide those models in order to get the best quality. It's also crucial that the base is joined with the ground to have a better and smoother transition between the main structure and the ground.



Add some alien detail

Distribute your key features to convey the image's story

04 Make broad sculpts The main element, which looks like a spine with ribs, needs an appropriate scale with the thickness of the ribs. It's also important for it to look good in the target perspective. It could be that the ribs of the structure contain engines to propel the ancient ship, so they need to be strong and have a secure physical connection to the main spine.

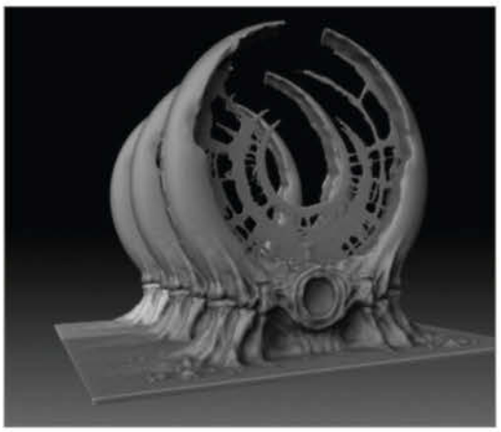
05 The mechanical inner circle After confirming the shape of the exterior object, it's time to add details to the interior object of the structure. We want the object to have the right thickness and for it to consist of several layers. It needs to look like a corroded and crushed interior of an engine. First paint a mask on this object, which is needed to extrude its thicker sections. Next, use the DynaMesh tool to improve the topology. Add medium and small detail using the prepared alpha base and hand modelling.

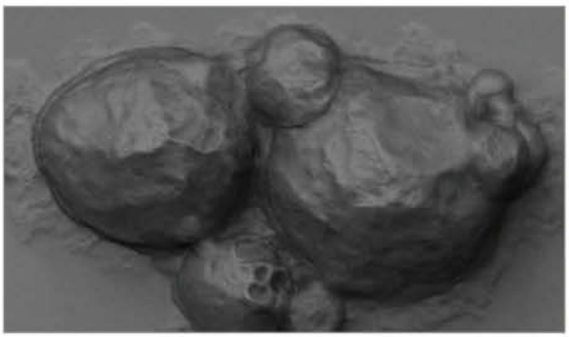


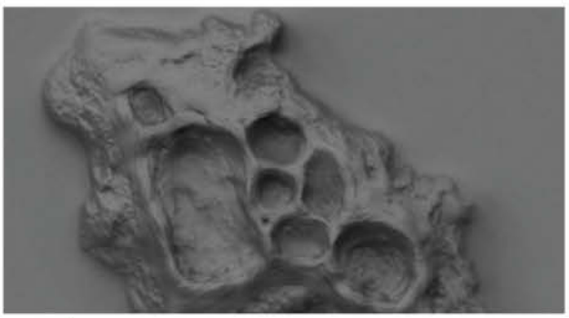


06 Duplicate models to check scale

When we have the shapes we want, it's time to copy the objects and put them in a scene, taking the perspective, camera and layout of the objects in relation to one another into consideration. This enables us to tell whether the applied changes are good enough and if the main shapes are close to what is needed. This is a good habit to adopt, particularly when making epic scenes like this.

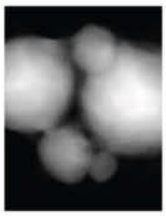


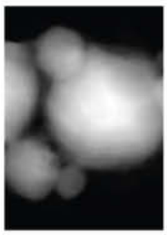




Detail, composition and the right view

In all my work I keep all the used elements, such as alphas modelled in ZBrush, which I can use for future works. I also create the alpha and brush bases. I try to put together the scene as quickly as possible and do the rendering so I can see how particular shapes look. This way I can also see the details in the composition as a whole. In the early stages I try to put the camera in the right position and choose the best perspective in such a way that I can see how much work is needed for each element. Frequent rendering helps me see the whole picture and enables me to decide whether I'm going in the right direction.

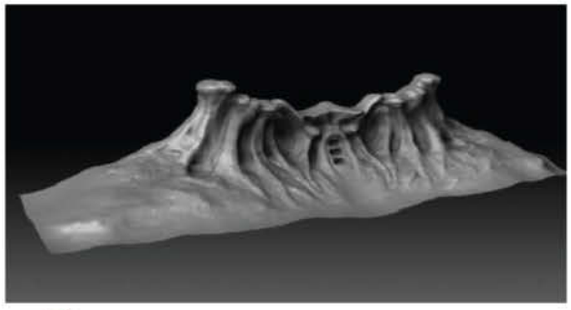




07 Model detail and create more alphas Now the main shapes are sorted, it's time to apply more detailed modelling. Alphas that we can extrude in the object will be very helpful. You can make them yourself very easily within ZBrush. All you need to do is model a suitable shape: go to Projection Master, use the MRGBZGrabber tool and you will have an alpha ready to add to your main model.

Unify your elements

Join your terrain and alien craft, testing all the way



08 Begin to blend the sections The base will also need the right shape and ratio; the initial concept was to have the base flatter, but as you can see both the terrain and the base both ended up being slightly raised. The base has to be constructed in a way that will enable us to join it with the rest of the terrain in the foreground later.







10 Connect the wide terrain Despite having quite a precise idea about the work as a whole, we should still look for the best shapes and details. Constantly make tests of your progress to ensure every element is working. A good example is the elements on the edges of the exterior objects or the details of the terrain joined to the base of the construction. Adding a few figures at the base of the object can show off its scale in an impressive way.

09 Test the lighting and colours The lighting and the climate of the work are very important, which is why during test rendering you should always consider their direction, colour and brightness. The background is also crucial, especially its colours and in this particular case the fog that occupies it. This fog's thickness and colour has a great influence on the whole work.

Stick with the process

Usually the first steps go very quickly if you have a vision, idea and a concept you've drawn yourself. Unfortunately, making the final decisions requires many tests and changes. Most difficult are the details and their layout. It's often the case that a considerable part of the work is inadequate and you have to start all over again, but this is what the creation process is all about. When you finally achieve the expected outcome, it's very inspiring and gives you the energy and motivation for further work.

Artist showCase

Tomasz Strzałkowski



Tree ZBrush, Maya, 2009, Photoshop
●In this image Tomasz wanted to combine mechanical shapes with tree shapes. He made the main model in ZBrush. After this I rendered it with a Displacement map in Maya



Roots ZBrush, Maya, Photoshop 2009, Photoshop
● In this image he continued the idea of Tree with a combination of mechanical and organic shapes, but with a different point of view. This main model was created in Maya



Tree Branches ZBrush, Maya 2010, Photoshop
● Tomasz had many parts and models from Roots that he wanted to use again. Here he used the same techniques that he learned creating Roots



Form the surfaces

Inject mood and atmosphere



11 Test BPR rendering and composition
Having modelled the whole work and a series of initial simple renders, we now need a more accurate render with the right camera position and perspective. At this stage, try to choose the optimal direction of the main lighting and select the best rendering values. Thanks to the rendering being completed in layers, we can create a file in Photoshop where all the layers can be put together properly.

12 Begin texturing with the Spotlight tool When the objects are ready, begin to texture using the Spotlight tool in ZBrush. Obviously, even after the texturing, some changes will need to be made to the model, though hopefully these will be minimal. We'll use several textures that will be manipulated to give us complete control and introduce some quick changes, even if there are changes made to the geometry.

Always test the project

Frequent testing in the target environment and the climate of the work is key. It means arranging and rendering layers with the lighting, shades, depth and colours in Photoshop. You also need to find the right climate. It's often the case that even the smallest changes have a very big influence on the whole work. When I am approaching the end of a project, I often take a long and careful look at the image, trying to find mistakes and thinking about how I can improve it.

Any changes made from now on are very thoroughly thought over. It's a difficult stage of the project because you have to know when to stop and finish it, rather than forever making hundreds of small changes.





13 Modify materials Now we'll begin selecting the materials. The materials of the main structure, the terrain, some technological elements inside the main circle and on its edges are all a little bit different. In order to increase the details, add noise on the terrain in the foreground and try to select the right values, such as Specular, Ambient or Light Cavit.

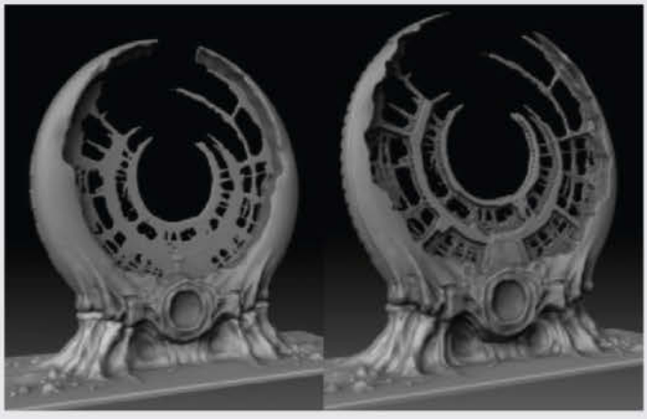


Work towards rendering

Refer to your concept and reflect on your aims

The best shapes

The outline of a concept created by our imagination is often the right one, but it's very difficult to find the best way to implement it. On the other hand, it's a very exciting process because it requires you to fulfil a vision that comes from within. Until you find the right version, use one that will make you feel satisfied, at least for a short while. Although the picture in your imagination is vague and it often changes, you will finally find the right shape and you will feel it. It's an inspiring moment!



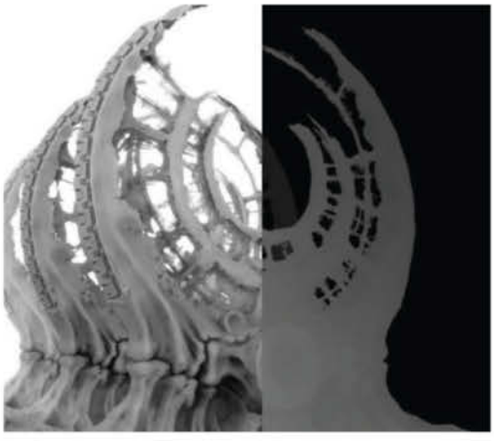


14 Adjust the main lights

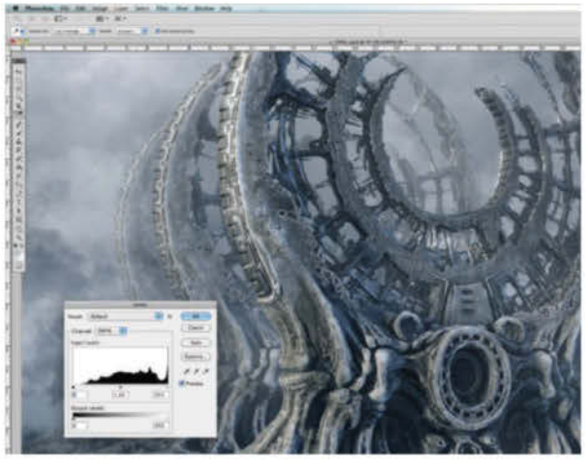
The primary lighting, the complementary lighting and the ambient lighting should all be rendered separately and only then combined together in Photoshop. In ZBrush you can get a very nice ambient lighting by loading an HDRI map and clicking the LightCap icon. This way we can get the collection of lights arranged in the space, the same as in the HDRI map. You can edit each one of these lights individually in order to get the exact mood you want.

15 Begin the rendering step

After frequent rendering tests it's now time for the final rendering in high resolution. In order to do it, first create a ZBrush project, save all the rendering values and put the camera in the right position with the perspective you are aiming for. Next, load the object. As mentioned before, we will render in layers, which enables us to put them all together in Photoshop. There are several separate layers for the lighting: Ambient Occlusion, Mask, Depthmap and finally the Light Cavity.







16 Move to Photoshop for the compositing

Photoshop enables you to put all those different layers into one final picture. Manipulation of the layers gives you a range of great composition possibilities. You can also create and add a background, fog effects, as well as correct the colours. This is the stage when the work acquires the right climate, and is finally refined and finished off.

Final thoughts

As is often the case when creating original images, I came across many problems, and while I was looking for solutions I learned a lot of new techniques. If you want to achieve a desired effect, you have to go for that goal whatever the problems – technological or inspirational – you may face. With the right amount of work and involvement, most problems can be solved and each and every obstacle you overcome will teach you something new and increase the range of your skills. I hope you've enjoyed the tutorial and take some inspiration from it.

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Jennifer Cirpici

Personal portfolio site **www.breakingcanvas.com**

Country **Netherlands**

Software used **Photoshop**

Jennifer is a self-taught graphic designer and illustrator from the Netherlands. She studied graphic design, has worked for several big agencies like Saatchi & Saatchi and Leo Burnett, and is currently a freelance digital artist.

Create fantasy landscapes from photos

Fantasy World Photoshop

Jennifer Cirpici takes you through the process of creating this Hollywood-inspired environment

Jennifer Cirpici Digital artist

What you will learn in this tutorial are several basic but essential techniques like blending, colouring and painting over a scene comprising multiple photos. This workshop is fundamentally inspired by the lush mountainous scenery in the movie *Avatar*. The Zhangjiajie Mountains, located in China, inspired the makers of *Avatar* to create the floating Hallelujah Mountains; they also inspired us for this tutorial and we used stock imagery of this range to create this artwork. We'll go into how you can combine real and painted elements (the essence of matte painting) in depth.

Over the course of these steps we'll also look at how you can blend stock easily and how essential colouring is when it comes to setting an atmosphere. This guide will not only help you to create these Avatar-esque floating mountains, but also to improve your future photomanipulations. Unlike the scenes created for the film, we will only be using Photoshop to achieve these effects.

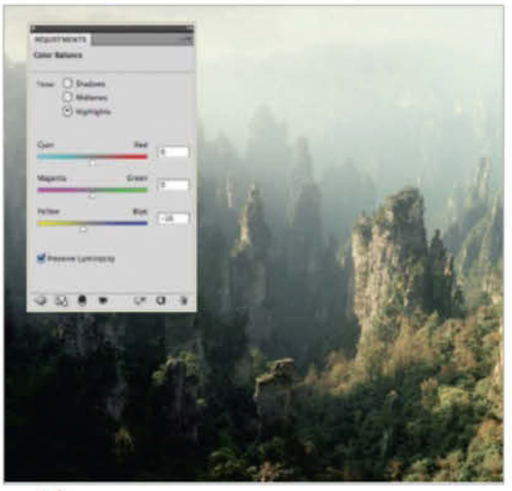


Create a lush environment

Manage your stock, colours and blending



01 Stock search The first step is to find some high-quality mountain stock images to begin your piece. The sky is white in our image and we want to add some clouds, so we search for good sky photos, paste them over the landscape, then blend using layer masks as well as the Overlay, Multiply and Normal modes.



02 Bring in some colour For a green tint, create a new layer filled with #f6f6e5 and set to Multiply. Now create a new layer set to Multiply, but fill this with a bluish gradient at 36% Opacity. Use Curves to up the contrast and tweak the greens with a Color Balance adjustment.

Source files available

Use the photo set to create fantasy worlds

Working Progress

Use coloured layers to build up vibrant art



Step 01: Stock search



Step 08: Shadows and accents



Step 17: More mist



03 Mountains and birds We now add in some mountains from another stock photo. Set the layer's blending mode to Multiply with an Opacity of 68%, then make the mountains a little greyer so that they all blend well together. Blur the mountains using the Gaussian Blur filter set to a Radius of 5px because they are further away and this will create a greater sense of depth. Finally, find some nice bird images and paste them into the composition, using the Edit>Transform options to match the scene's perspective and scale.



04 Floating mountains With the help of CGTextures (www.cgtextures.com), we source some free landscape stock images and blend them together to produce a mountain reminiscent of those in Avatar. This is very much a matter of artistic licence so you will have to decide on the scale, shape and which materials constitute your mountain when you come to constructing it. As previously demonstrated, use layer masks to bring elements together, as this will help to blend effectively using black and white brushes. Also, make sure that when you are using these brushes you are working with a low Flow value as this will help to achieve a smooth blend.





05 Gradient shading Select the floating mountain and, with a black-to-transparent gradient, create a shadow at the bottom of the scene, fading out towards the top of the image. Lower the Opacity to 28% and repeat this step. Select parts of the mountains from the background and paste into the bottom to give it more texture. We'll go into more depth with this in a moment. At this stage, it's a good idea to take a final look and check you're happy with the composition. To do this, go to Edit>Transform>Flip Horizontal.

06 Depth and highlights To create depth and highlights, we use a small, hard brush, painting with black where we want to generate a bit more shadow. We set this layer to the Soft Light blending mode and lowered the Opacity to around 70% with the brush Flow at 70% too. Follow the same process with a hard white brush, this time creating highlights with the layer set to Overlay. You can use this technique with all your photomanipulation projects to great effect.

Quick Tip

You may find that you get stuck sometimes, and lose inspiration or motivation to continue with your artwork. Some of the best solutions are to either sleep on it, take a couple of steps back from your screen or, as we did in this tutorial, just change the perspective by flipping it horizontally.



Make the fantastical real

The secret is in the details





07 Add some clouds To add realism to the floating mountain and to establish its significant scale and airborne position, we imported some clouds, placing them around the bottom of the mountain. Render the clouds with channels, put them on a new layer and then invert it (Cmd/Ctrl+I). Now select the black parts (the clouds) with the Magic Wand tool and erase the rest. Blur the clouds with Filter>Motion Blur to lend them a greater sense of movement.

08 Shadows, accents and eerie mist

As this project goes on, and the more that you work on the mountain, the more likely you are to notice that it requires more details. At this stage, for example, we decide that this image needs more shadows and highlights. Repeat step 6 and go into more detail using a smaller brush. It's time-consuming work, but this effort will pay dividends when it comes to the final result. To generate a mist effect, take a soft brush, sample the colour from the background with the Eyedropper tool and brush over the mountain and background before switching to Soft Light blending.

09 Add some plants In Avatar, the floating islands have long vine-like plants to help people move from one island to another, and we're also creating these in our scene. Take a hard brush and draw some simple lines to get the basic plant forms from one mountain to another. Then, with a green colour, add more lines over the first set and then a final group of lines in a lighter tone for shading. You can also set some of the lines to Overlay.





10 Mountain vegetation We are now going to add some shady plants to the bottom of the scene and around the base of the floating mountain. You can do this very simply by taking the hard brush again and, with a grey colour, drawing in plants that are hanging down. The trick is that they don't have to look exactly like plants when zoomed in, but when you zoom out they should look convincingly like the silhouettes of trees or shrubs. You only have to make these plants as complicated as you want to.



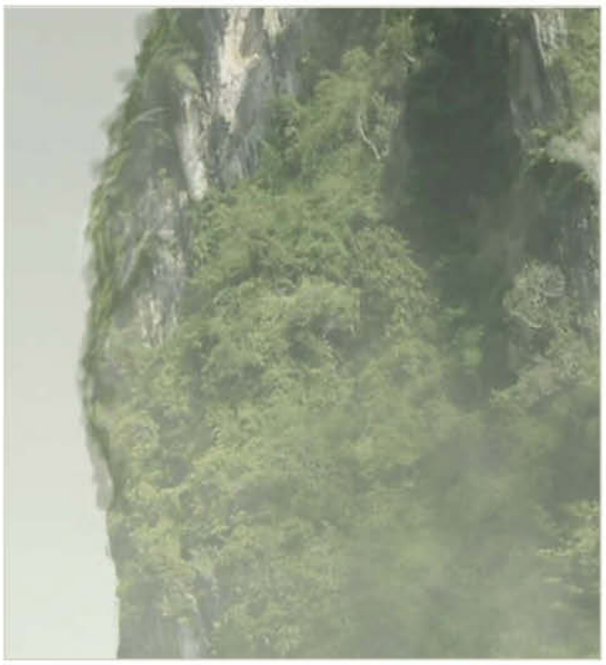
The final touches

Wrap up your fantasy world



11 Additional highlights We come again to a point when we're adding more highlights – you can never get enough of them! The more you have, the more detail there will be in your scene and the better it will ultimately look. We're also adding a bit of green here and there with a hard brush. By doing this we are giving it a more digitally painted feeling, but don't forget to make sure that everything blends well together, with no one area stealing the show.

12 Mountain edges Because we could never have rendered the rock in a way that made the plants at the edges look good too, we need to add our own flora to the mountain edges. This will better blend the mountain into the sky and reduce that copy/paste feel. Again, you don't have to paint the plants or leaves very realistically as they're in the distance and shrouded by mist. Make sure not to use one colour – always add in highlight and shadow tones too.



13 Splash out Before making a waterfall, look up some references to get an idea of the basic structure. As you will see, there isn't too much detail in a waterfall – it's basically a white cloud. Take a soft brush at around 150px, brush a thick line in white and then apply Soft Light blending at 25% Opacity. This is the start of the waterfall and shows how it's floating. We now add a couple of finer lines either side of the waterfall to serve as edges.





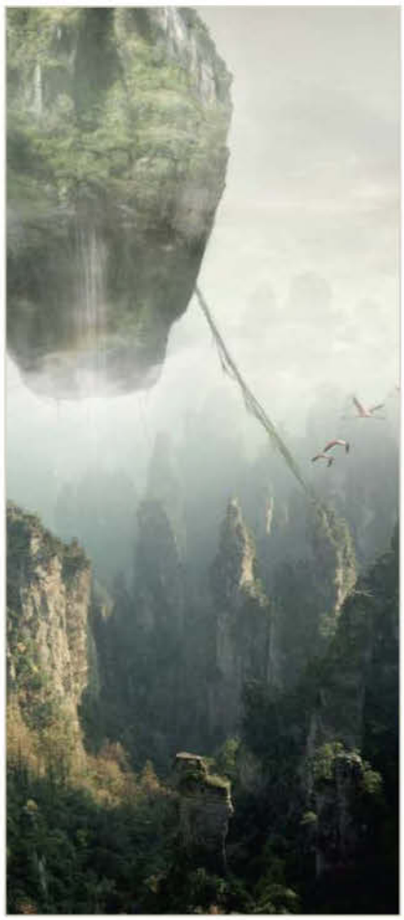
14 Waterfall details With a soft brush sized around 500px, brush once more into the waterfall, but lower the Opacity to 28% and set the blending mode to Soft Light. For details, zoom in and use a hard brush to make a couple of small strokes and then, on a new layer, add a series of lines. If they look too hard, you can blur them a bit. Add vertical lines until satisfied then apply some smoky mist underneath the cascade.

15 Rainbow effect Waterfalls can often be seen with a rainbow near them due to light refracting through the moving water. Create a subtle rainbow with your hard brush, as per the screenshot, lowering the Opacity to 80%. Change the layer to the Soft Light mode and apply a Gaussian blur so that the rainbow doesn't draw too much attention. With the soft brush set to the Soft Light mode, add a little more mist coming off the waterfall.



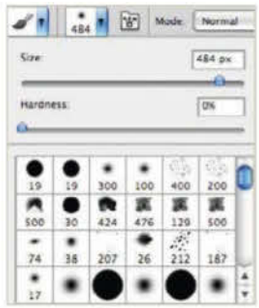
16 Mountain shadow Because it's a floating mountain, we need to add its shadow to the area it's suspended over. We decided to put some shadow on the rocky column closest to it and on the ground using the soft brush set to black at a lowered opacity. Make sure you never do just one shadow – for realism, apply several layers of shadow that become darker the closer they get to the object. Don't mess too much with the blending options when it comes to shadows, either, as they need to be almost completely black.





Quick Tip

For this tutorial we didn't just use Photoshop's standard hard and soft brushes, but we also used a brush set from one of our favourite artists, Dan LuVisi, who is also known as adonihs. You can download the set for free from his deviantART gallery at tinyurl.com/adonihs. Do read the usage instructions before you use them though. LuVisi is a great artist and this is a fantastic resource, so they're worth downloading when working on a matte-painting project like this.



17 More mist As one of the final steps, we are going to add yet more mist around the floating mountain and make the vegetation around the edges a little greener. The mist will help the mountain merge seamlessly with everything else in the scene and it also enhances the surreal and mysterious mood we want the image to have. Never make your mist too white, though. Instead use a colour in the same shade as the background, so in this case give it a green tint. Switch the mist layer to the Soft Light blending mode and set the Opacity to 30%.

Quick Tip

When you digitally paint, you can use the Rotate View tool to navigate your whole screen. This way you can paint more detailed elements without having to turn your head. It makes everything much more comfortable.



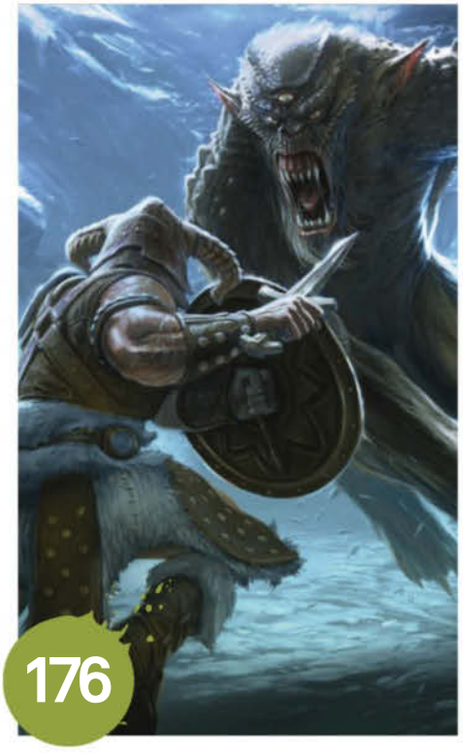
18 Final touches Now you can play with Brightness/Contrast, Levels and Curves adjustment layers. To get focus in this artwork you can also create a black-to-white radial gradient on a new layer set to Soft Light and 30% Opacity. The white circle goes wherever you want to draw focus. Create a new layer, fill it with black and go to Filter>Noise>Add Noise (12.5% and Monochromatic). Set this layer to Soft Light and just 5% Opacity. Last but not least, wrap up the image with a Smart Sharpen filter.

Concept

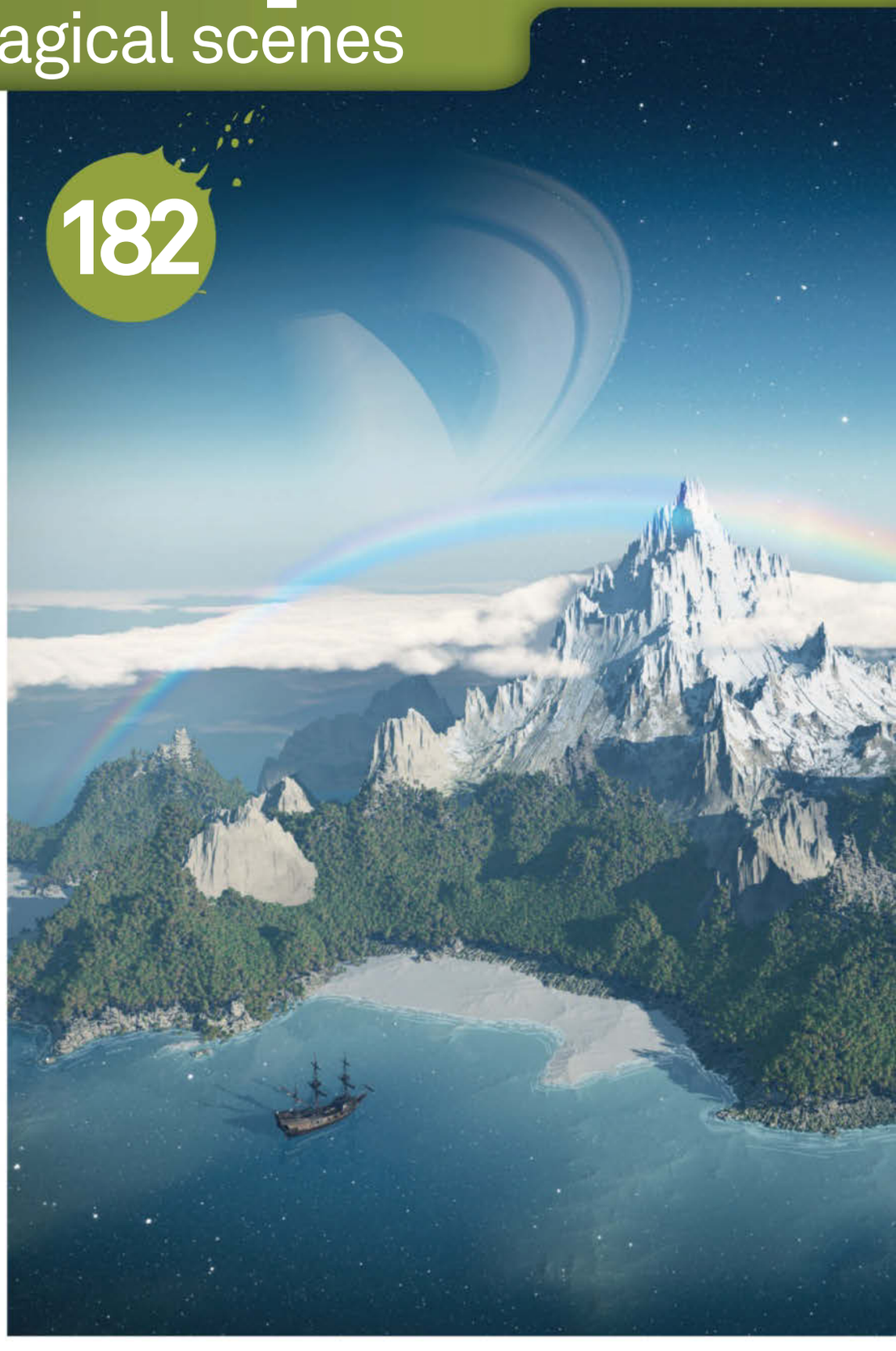
Compose magical scenes

152 Build fantasy architecture
158 Concept art for a heroine character
164 Create dramatic lighting effects
170 Sci-fi concept art
176 Build videogame concept art
182 Build matte paintings
188 Design robot mechs

> "The viewer should be convinced that the world could actually exist"

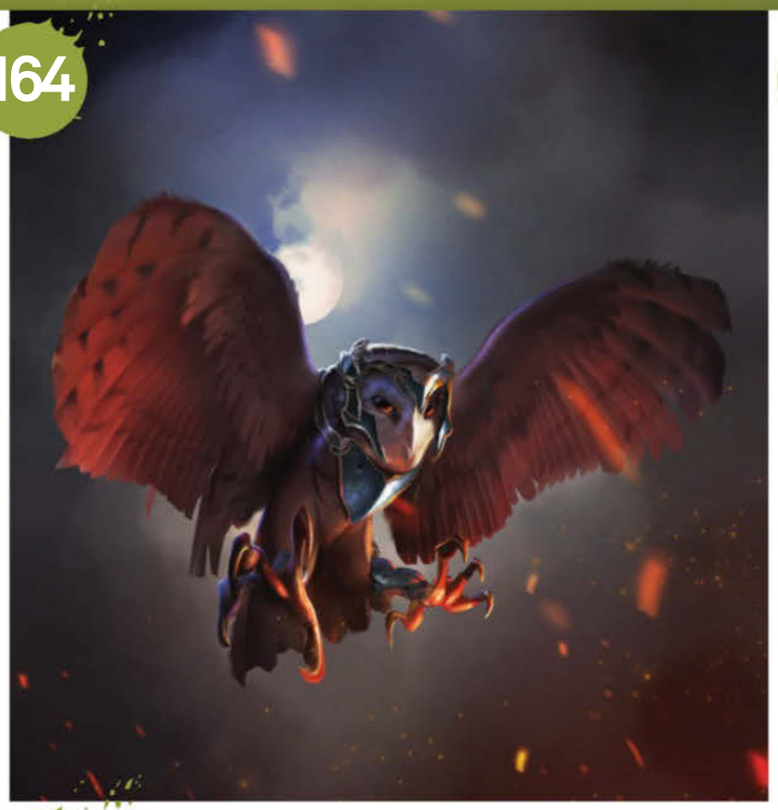


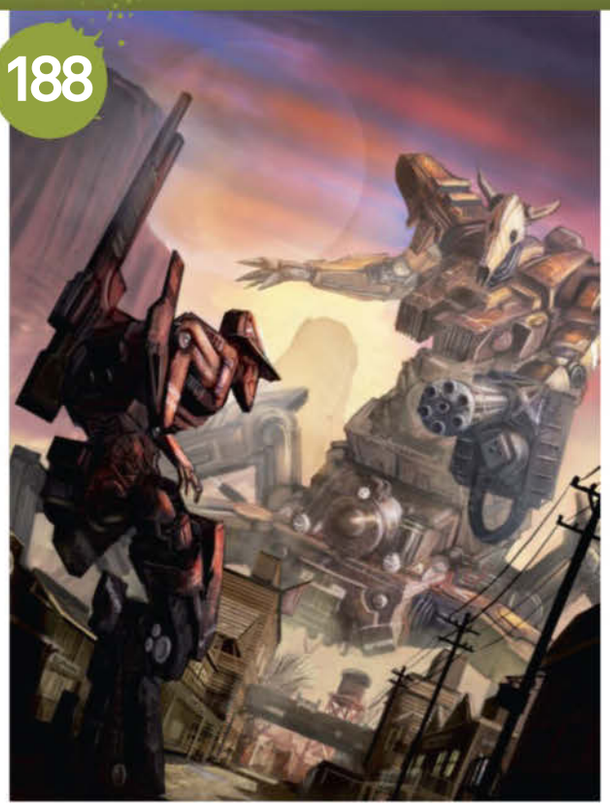
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182




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Source files available

Tutorial files on the disc

Build fantasy architecture

Blood Temple 2012 **Photoshop, Painter**

"Alexander teaches you how real-world references can inspire your fantasy buildings and scenes"

Alexander Thümler Digital artist

In the field of entertainment design and illustration, you are almost always faced with the prospect of creating virtual worlds that include some kind of architecture, or even whole infrastructures. Whether it is science fiction art or a classic medieval fantasy image, from the very first second the person looking at this kind of illustration should be convinced that the world he or she is observing could actually exist. Even if there is magic going on or you can see floating buildings in the air, if the artwork contains a consistent visual style then every kind of architecture in every kind of environment will work.

That is why it is so important to be inspired by actual civilisations, both ancient and modern. Fantasy architecture, for example, is often inspired by gothic elements like castles and cathedrals. You can create a new fantasy scenario by combining more than one civilisation and their architectural styles. As long as the elements hang together in a way that is physically possible (even if the physics are based on magic), the viewer has to believe that what he or she sees is real – even if it is not. Natural patterns, random abstract shapes or objects you might never have thought of using as building blocks before can also inspire a scene, but nonetheless physical functionality is the most important aspect of making fantasy scenes seem possible.

In this illustration, we take inspiration from exotic ancient architecture. Old, lost civilisations like the Mayans and Aztecs can be truly inspiring when it comes to creating your own fantasy architecture. Explorers are still finding undiscovered ruins to this day, and the fact that we know little to nothing about their use makes the Mesoamerican motifs that they use a visual shorthand for mystery and magic, while allowing us to integrate fantasy elements into something that's conceivably from the real world.



Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info

Alexander Thümler

Personal portfolio site **www.minzketchbook.com**
Country **Germany**
Software used **Photoshop, Painter**

Alexander is a concept artist and illustrator, studying design in Nuremberg. He does live paintings with an audience or on the internet via Livestream.



Explore ancient ruins

Develop your idea from sketch to finished piece

01 Basic sketch Start to paint some very simple shapes and silhouettes with a big rough brush to find a composition that works for you. It's not necessary to care a lot about the architecture or even the perspective – just try to find a way to place all the elements you want to show.





02 Shapes Once the basic sketch is done, start thinking about the general perspective and architectural elements you want to use in the painting. Pick a thinner brush to define the shapes with a bit more detail and bring a little more design into the abstract structure.



03 Value It's important to bring out focal points as soon as possible, as they lead the viewer through the whole image. Use a large soft brush on a layer set to Overlay to define dark and light areas and work out the basic values of the painting. This will give the painting a visual guideline.

> "It's important to bring out focal points as soon as possible, as they lead the viewer through the whole image"



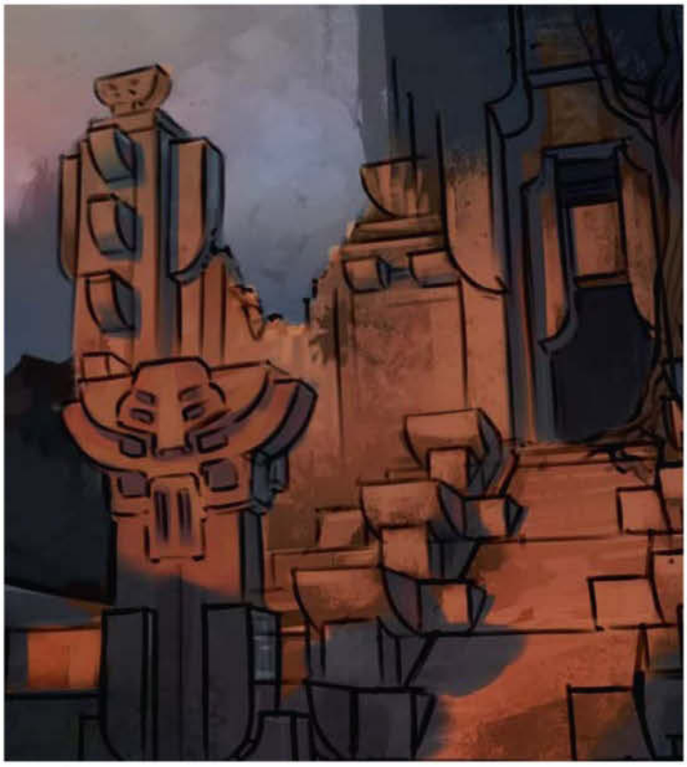
04 Mirror Start sketching in more details of the architecture and the plants growing around the structure to work out the scene. Flip the canvas horizontally and vertically in order to check out the composition and the general tilt of the image from time to time.

Mirroring

During the process of creating your digital painting, it often happens that you get too used to your image and overlook mistakes in the composition. It's important to flip the canvas horizontally and vertically as often as possible during the whole working process to get a renewed perspective of the painting.



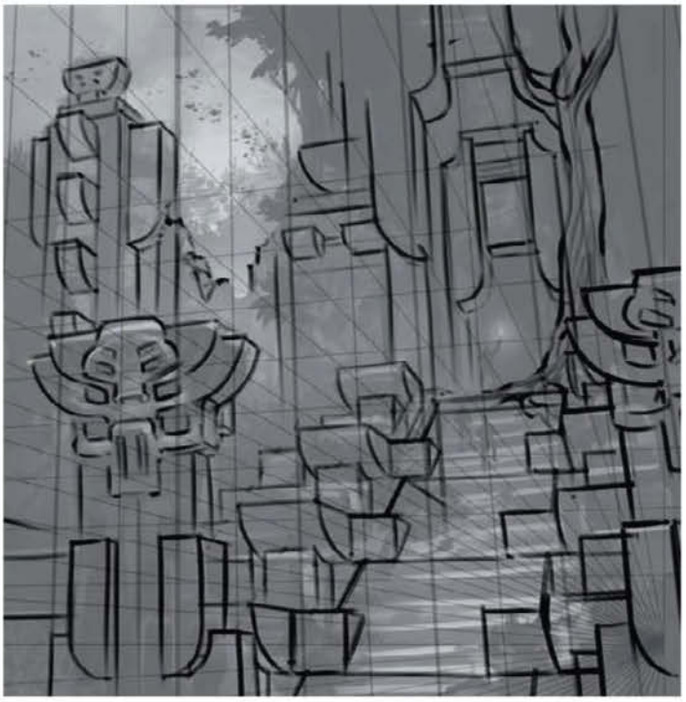
05 Finished thumbnail Don't spend too much time rendering the thumbnail, as this is just one of many thumbnails that you can draw before starting the final illustration. Bring in some last-minute details to refine the composition and highlight focal elements by using fast and loose strokes.



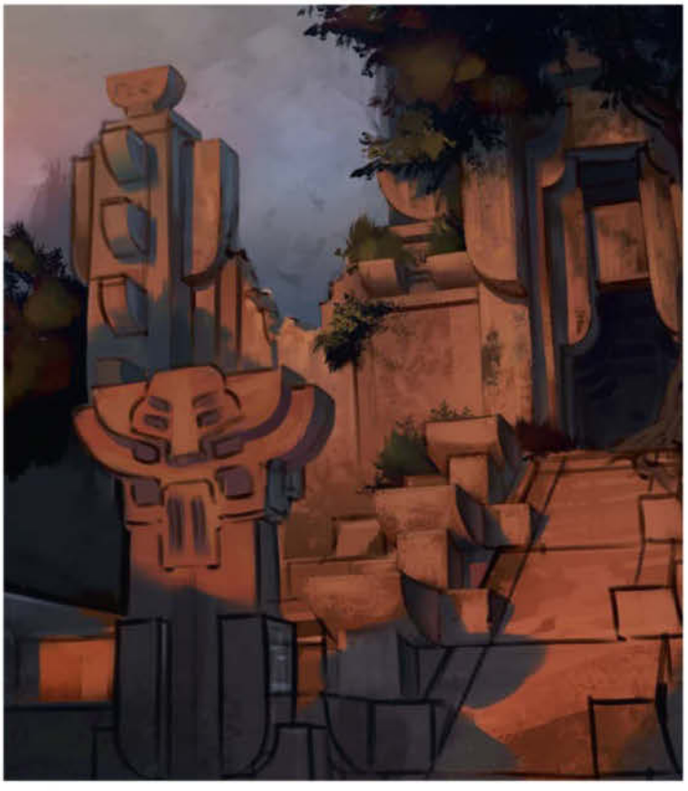
07 Colour In this step you have to think about the atmosphere and general lighting of the scene to figure out how these things affect the material the temple is made of. Once you're happy with your idea, start painting in the basic colours of the temple and the shadows underneath the line art.

Saturation

To maintain balanced values, it's important to hide the colour of an image from time to time and see it completely desaturated. The perception of tones is often influenced by colour overstimulation and the colour contrast.

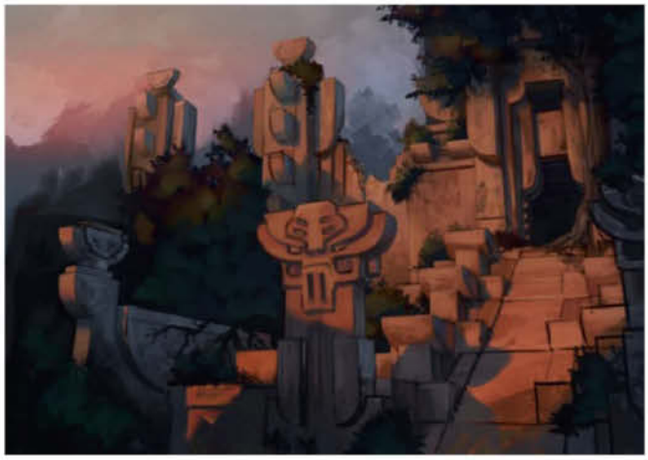


06 Line art Now that the architecture and perspective are roughed out, you can draw a simple perspective grid with one, two or even three vanishing points and begin to draw the architectural line art on a separate layer. Constructing three-dimensional objects is not easy, so take your time.



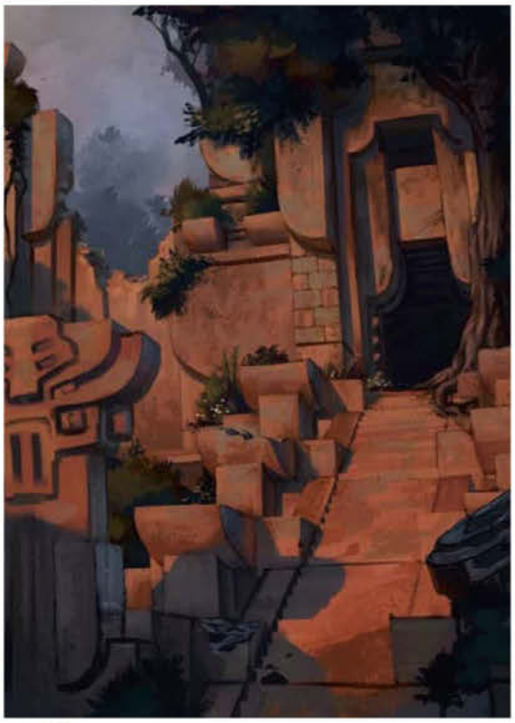
08 Light direction Now, drop the line art onto the canvas and start to paint over it. Always keep the angle of the light in your mind to prevent mistakes from occurring. Create some rough brushstrokes as a raw base for the foliage of the trees and bushes growing around the temple. A low-lit, evening angle for the lighting adds mystery and menace.

09 Develop depth
Continue rendering the architecture as subtly as possible and bring depth into the image by painting faded trees or other parts of the temple into the background. Make use of the lighting angle and atmospheric perspective in order to enhance the eerie atmosphere of the overall scene.





10 Destroy the temple Once you've rendered the surfaces, you can start destroying the architecture. Paint some debris, broken walls and statues. Add some colour variety to the boulders to make them look old and ruined. Remember, you're aiming for the look of somewhere that has been lost for thousands of years.



11 Refine the details Use a thin brush to draw reliefs, gaps and cracks on the walls to make the whole building look ancient and ruined, and add some more leaves and roots to show that this is an abandoned place. You will want the viewer to wonder what happened to the original inhabitants and feel vaguely unsettled.

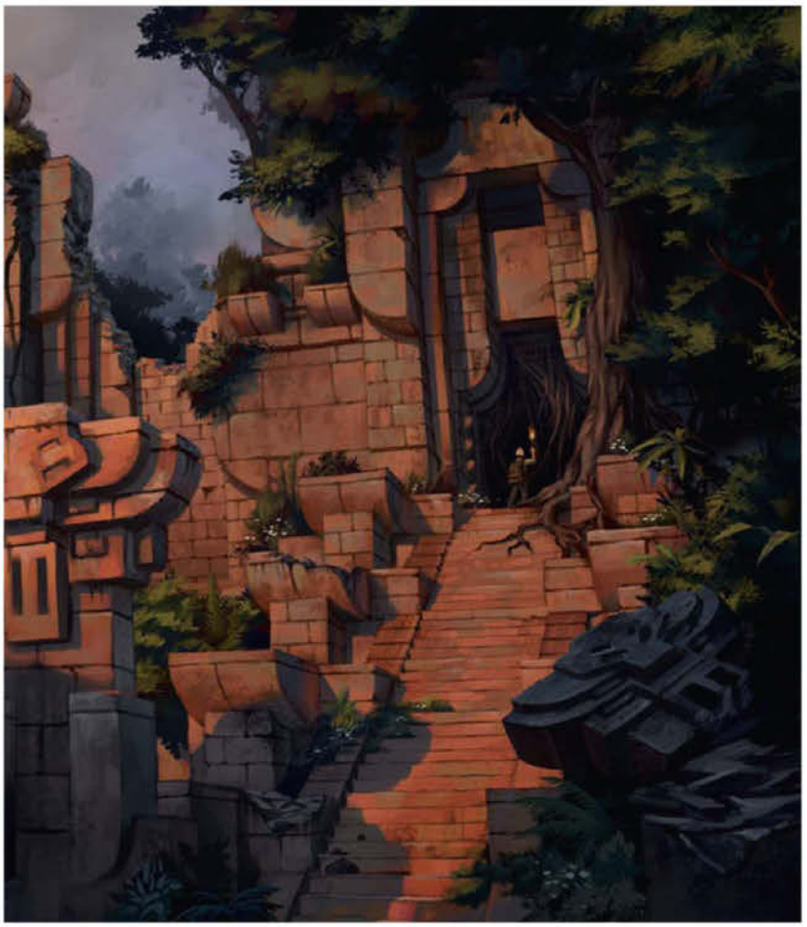
> Make use of lighting angle and perspective to enhance the eerie atmosphere...You want the viewer to wonder what has happened here

Step back

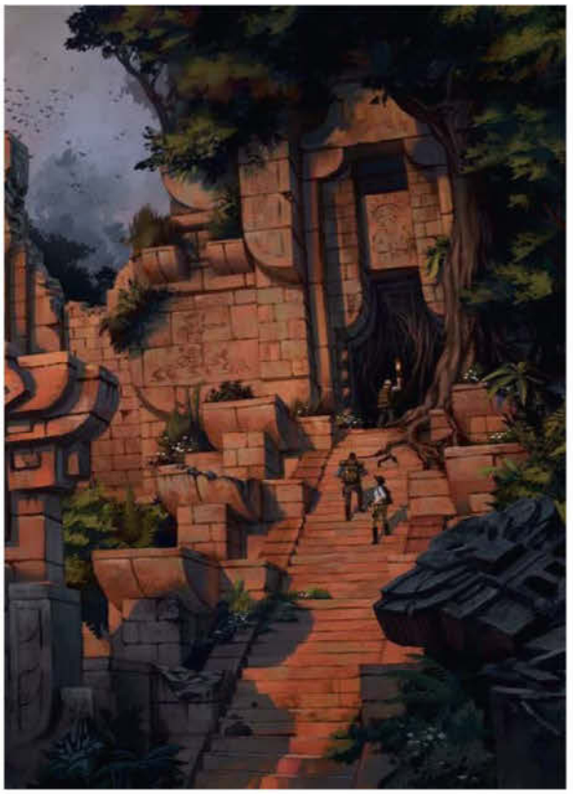
It's often easier to improve the composition of a painting by looking at the image in a very small format. Because there is a loss of information due to the scaling on the screen and the fixed number of pixels, it's advisable to view the image on the whole screen and step back from it. In this way, even the smallest details contribute to the overall image.



12 Build up the story To help the viewer get into the scene, add some story elements. Here, explorers are shown making their way into the dark doorway at the heart of the image. We put them in with the image flipped to check that they read correctly.

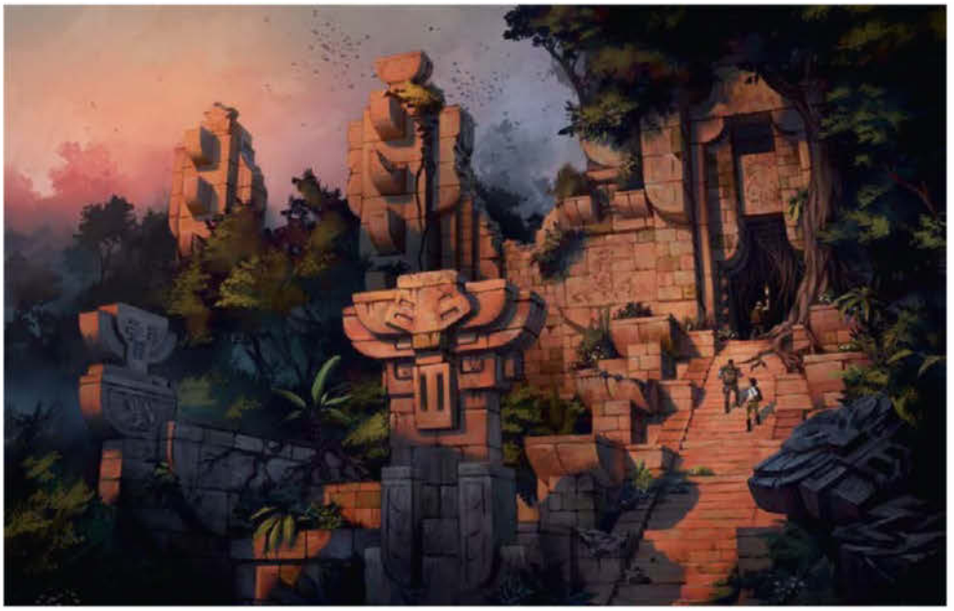


13 Accents Bring more life into the scene by adding additional trees, grass, bushes, flowers and ferns. Accentuate some elements of the ruined temple by adding a little bit more saturation if they merge too much with the whole structure.



14 Hint at a terrible secret Another detail often seen in ancient ruins and temples is art itself. Temples often have a lot of murals, reliefs and statues to show rituals and other events that happened in the past, or prophecies that will influence the future. Draw in some relief details on the walls – these details feature giant, magical figures demanding worship and sacrifice from smaller, more human-looking ones.

> “Use a layer set to Overlay to highlight the focal points, bringing out the contrast on the stairway, figures etc”



15 Last-minute values To finish the painting, use a Color Balance adjustment layer to make all the colours mesh with each other perfectly. Finally, use a layer set to Overlay to highlight the focal points once again, bringing out the contrast on the stairway, door, figures and temple artwork.

Working Progress

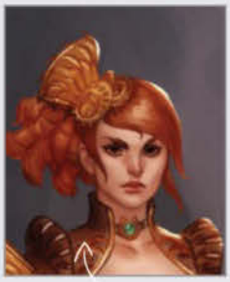
Use coloured layers to build up vibrant art



Step 04: Design theme



Step 11: Light in greyscale



Step 14: Render the character

Concept art for a heroine character

Playing with Firepower **Photoshop**

"Find a suitable design and create a rendered painting for a strong and beautiful videogame heroine"

Simon Eckert Illustrator

If you want to succeed in creating a good design for a female videogame heroine that appeals to all, there are some important aspects to keep in mind. First, she should look strong and capable of dealing with any obstacle. Second, she should be beautiful and sexy, though you should avoid trying to achieve sex appeal through too much naked skin. Strength and capability paired with a beautiful, stern face don't need a chain mail bikini to create a sexy and believable design. Of course, she's still a heroine, so may well possess a superhuman physique or otherworldly beauty.

More important than her physical appearance is that your character has a unique look that makes her memorable and outstanding. That look should primarily be achieved through a distinct and interesting silhouette and via engaging design of her clothes and weapons. The audience must be convinced at first sight that they want to play as that character to draw them into the game.

To create such visual appeal you have to know what the character is about, her role in the story and her skills and function in the game. Another important aspect is that your design isn't too difficult to translate into a 3D model in order to be animated. Thus it shouldn't incorporate too many protruding and detached accessories like flowing ribbons, feathers or long cloaks. The latter are particularly unfavourable for figures mostly seen from the back during the game, as they obscure any shape that might make the character unique.

Key features for the heroine in this piece are as follows; she will be a professional thief or mercenary, hunting treasure and rare artefacts in the catacombs beneath the surface of a steampunk-inspired world. She's tough, agile, ruthless, a little bit flamboyant and of course a radiant beauty. She uses a master-crafted multi-barrelled handgun, which needs to be loaded with power cells. With those key features set, we can start designing.

Source files available

Discover the line art for this heroine and render your own

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Simon Eckert

Personal portfolio site **www.holysquid.de**
Country **Germany**
Software used **Photoshop**

I'm a freelance illustrator and concept artist with a background in graphic design. I live and work in Berlin. My expertise ranges from creating illustrations for board games and role-playing games to graphics for browser games and character concept art for MMOs.



Design the heroine

Start Photoshop and sharpen your pencils



01 Look at references

Before you start to actually design something, be it in a realistic or fantasy setting, you should look at photo and style references to gain inspiration, knowledge and understanding of the subject matter. For the steampunk setting used in this piece, elements like antique pistols, Victorian-era clothing and jewellery are relevant accessories to the genre.



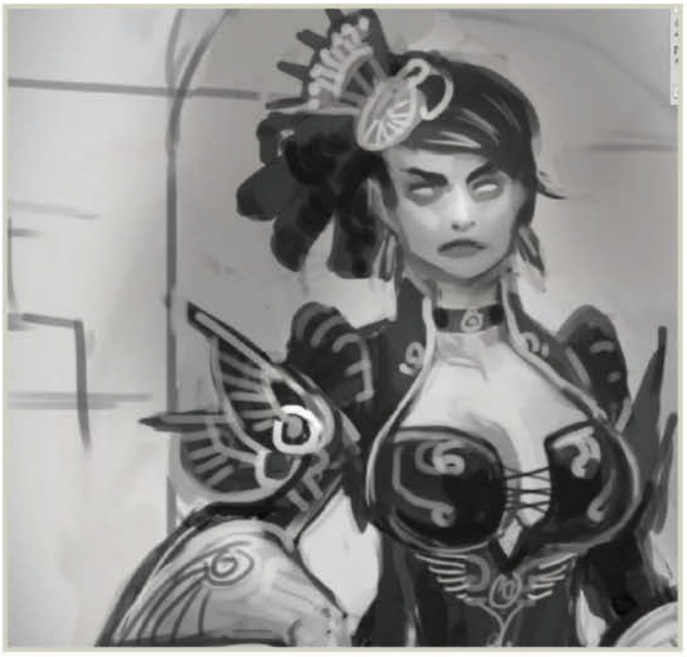
02 Preliminary sketch

Begin with a digital sketch made in Photoshop, because this way you retain the possibility of making quick changes and don't have to cope with a lot of erasing and smudging in a messy pencil sketch. You can also flip the canvas at any time to check that you have the proportions right which is invaluable. This step is very important as it sets your road map for the entire image.

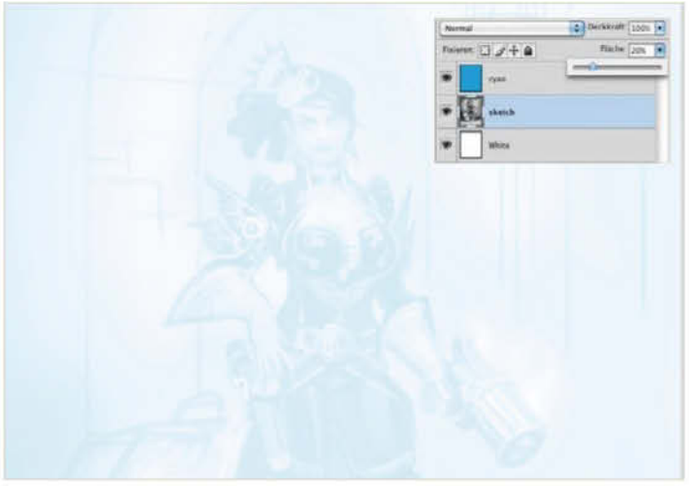


03 Create a silhouette Our videogame heroine needs a good and recognisable silhouette that makes her unmistakable. You have to consider the shape from all angles but especially from the back, as the character is most likely to be seen from that perspective while people are playing the game. Forms that are too extreme might be difficult to animate.

04 Design theme To give the character a consistent look, you should try to find a theme that's used throughout every part of the design. An overly eclectic look will, in most cases, result in an image that is weaker and less memorable. This piece encompasses a wing theme because it's suitable for making variations for different shapes of the costume and fits her character.



05 Colourise your sketch When you've completed your sketch, create a new layer above it in the layer stack, fill it with 100% cyan and set the blending mode to Screen. Now create a new layer under your sketch layer, fill it with white and reduce the opacity of the sketch until it's very light and barely visible. Print your sketch on the drawing paper of your choice. You should now have a light-blue sketch that is ready to be refined by hand.





06 Draw the line art Though the digital medium is great for its versatility and is ideal for most colour work, it is a good idea to make a traditional pencil drawing before starting to paint. By using this digital-traditional-digital workflow you are more likely to achieve an individual and dynamic-looking piece. Having the sketch printed in blue will give you a solid basis for a clean pencil drawing of the details.



07 Final design Now you have to create the real design including all of the intricate elements. Refine the ideas you put down in your preliminary sketch, look at references again if you're unsure about how to draw anything and bear in mind that someone will have to model your design in 3D later.

Using a reference

The inspiration for the accessory on her head came from a Victorian hairpin. You should never underestimate the power of using references.

08 Scan your drawing The final drawing should be scanned at 300dpi (at least) to retain as much information as possible. At this stage, flip the scanned image and correct any flaws in anatomy or proportion.





09 Transparent line art Go to the Channels window in Photoshop and check in which of the three (RGB) the image looks cleanest. Select that one and remove any remnants of the blue print using Image>Adjustments>Levels. Now copy that channel into the other two. Create a selection by clicking on the RGB channel while holding Cmd/Ctrl. Invert that selection (using the shortcut Cmd/Ctrl+Shift+I) and fill it with black on a new layer.



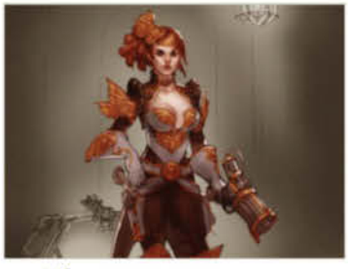
10 Shapes and selections Create a new layer under the line art layer and use the Lasso tool to select the shape of your character. Save the selection (Select>Save Selection) and fill it with grey. In this manner, you can go on selecting and saving the shapes you think could be useful later, for example the main colours of the clothes, to create a complete (if basic) value study.

Quick Tip

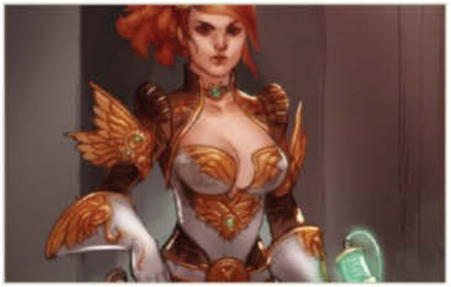
Use the Elliptical Marquee tool to create geometric things like the gun barrels. Such objects need to look correct in regards to perspective or they will not be convincing.



11 Light in greyscale Depict a lighting situation, but be careful not to make it too dark, as all the detail should be readable for later modelling. You can also define the light and dark areas of the costume to create a unique pattern. In the case of this piece, this image of the character has a bit of background, so add backlighting to create a three-dimensional atmosphere.



12 Colour scheme One of the most powerful tools to make your character stand out is to establish and work within a strong colour theme. Try to create a working scheme using only one or two bright key colours and leave the rest unsaturated. Using too many bright hues will quickly result in a chaotic, random and cartoony look.



13 Blend the hues Colourise your image by using blending modes. Start using layers set on Soft Light to define the basic colours and move on to Hard Light to bring out key colours. You can experiment with blending modes but try to avoid an overall look that is too saturated. Merge everything down before you start rendering.

Style School
Art genres in a nutshell

Some classic CG heroines

These classic games heroines demonstrate the visual power of a female protagonist

Male protagonists are common in videogames, but some of the most well-known and loved gaming characters are female. Whether they're the main player character or the driving force behind the story, these three characters demonstrate how an iconic design combined with individual beauty and a sense of personality combine to create memorable and much-loved characters.

Name: **Princess Zelda**
Game: **The Legend of Zelda series**
Date: **1986 – present**
Games Company: **Nintendo**

● Named after novelist F Scott Fitzgerald's wife, Princess Zelda has appeared in different incarnations across the *LOZ* series. The classic blonde, blue-eyed elven beauty started out as a princess who needed rescuing and has developed into the brains behind the throne of her kingdom, with sideline careers as a ninja, pirate and even, on occasion, as a goddess.





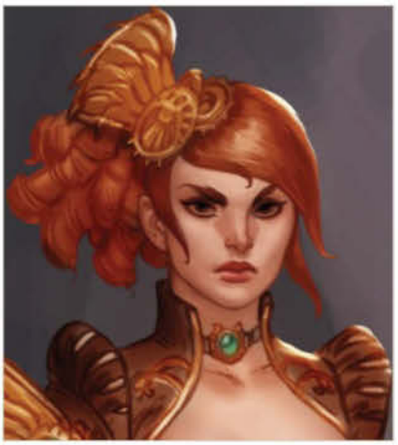
Name: **Samus Aran**
Game: **Metroid series**
Date: **1986 – present**
Games Company: **Nintendo**

● Nintendo's action adventure had a great reveal at the end of the first game in the series, when the exoskeleton-clad protagonist doffed their robotic suit and was revealed to be female. Statuesque Samus Aran is arguably the first female videogame protagonist. Infused with alien DNA and packing a suit that would make Iron Man jealous, her look is based on Kim Basinger.

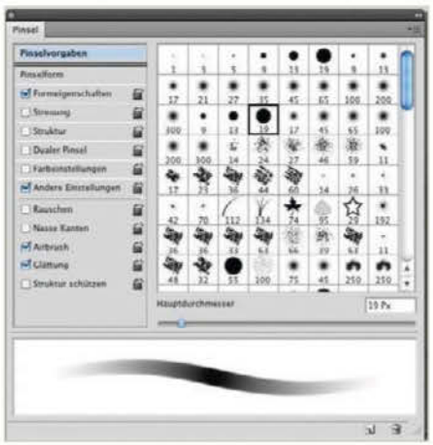


Name: **Lara Croft**
Game: **Tomb Raider series**
Date: **1996 – present**
Games Company: **Eidos, Square Enix**

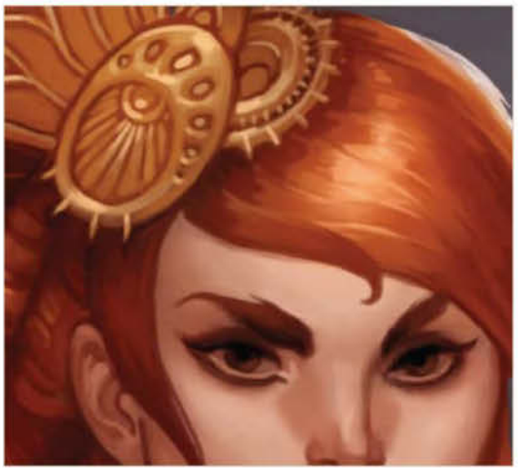
● The curvaceous brunette Lara Croft was created like a female Indiana Jones. With her luscious looks, she was based on a combination of pop singer Neneh Cherry and comic-book character Tank Girl, designed to counter stereotypically delicate female characters. The actress, Angelina Jolie also played her twice on the big screen.



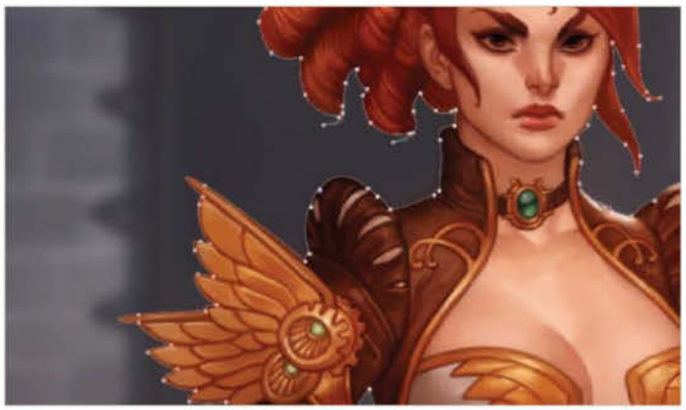
14 Render the character Now with all the information set, you can start rendering the image. This is the most time-consuming part, but a fully rendered artwork will make it easier for the modellers to translate your ideas into 3D and is also much more convincing to look at. A poor design with a boring shape and confusing colours won't get better no matter how well it is rendered.



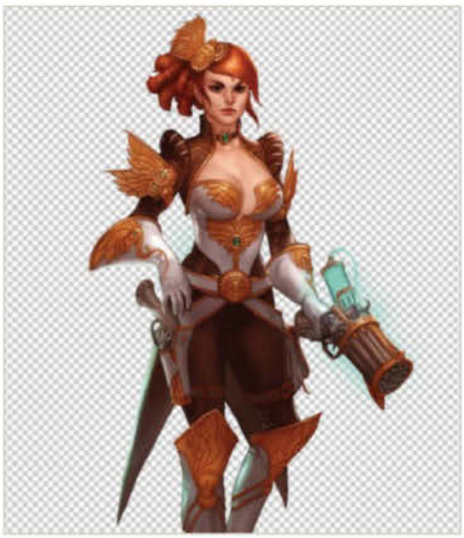
15 Brush techniques Create a new layer over your basic colours. Use the round hard-edged Airbrush tip (with Opacity set to 100%) to render most parts, and the soft-edged Airbrush set on low opacity to smooth down areas where a softer look is wanted. Try to keep your strokes as dynamic as possible in your line art and pick colours from your image, especially the halftones created by the line art over the colour sketch.



16 Painting surfaces Differentiate between soft and reflective surfaces by painting harder highlights and more contrast into metallic or shiny parts and softer rendering for skin or leather. Avoid using pure white or black – you can always emphasise shadows or highlights later on. When I use custom brushes or textures, they only provide the basis for further painting, as they tend to make the artwork look too digital. Merge everything down again.



17 Select with paths With the main rendering done, we can make a final selection to separate the character from the background and define the final shape. This wasn't done earlier to retain the ability to alter the silhouette until the design is finalised. Use the Pen tool set to Paths to get a smooth look.

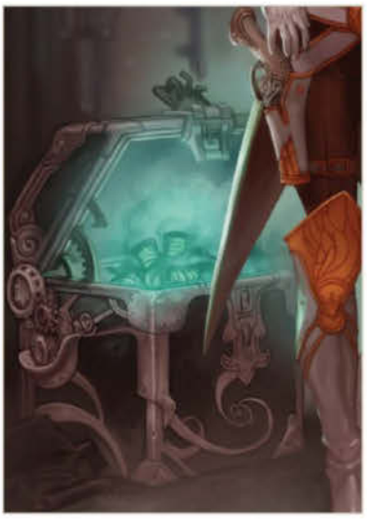


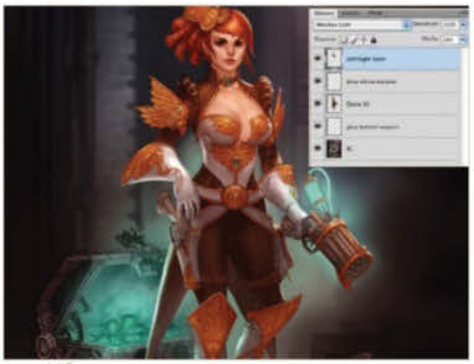
18 Clean the outlines Make a selection from the path, invert it, duplicate the image and delete everything around the character. Invert the selection again and fix any small flaws that you notice on the silhouette. You now should have a smoothly rendered character with transparent background on one layer and a background layer below.

Break the silhouette

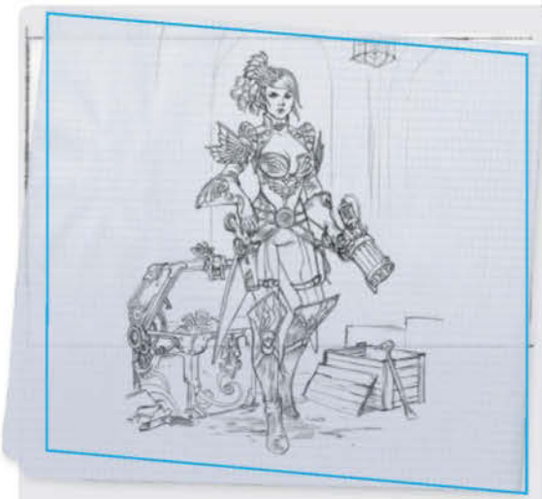
I used the wing design on the armlet as a means to break up the human silhouette and make it more jagged and dangerous looking. Though they are a decorative element, they still don't look like they'd encumber the wearer.

19 Paint the background Character concept artists often don't particularly like painting backdrops, but a little bit of scenery can really convey some of the background story and produce a much more finished and elaborate piece, as you can see here. Use the Gaussian Blur filter over your background to add a sense of depth to the image and to also achieve a more realistic in-game look.

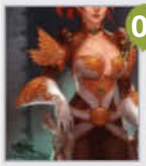




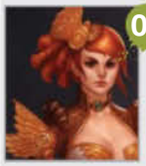
20 Finishing touches The last step is to tweak the colour and contrast in your piece. Use a Soft Light layer with a warm colour (at a low opacity) to bring out the heroine against the background, which you can also make darker with Levels.



Key techniques



01 Designing details I stuck to the wing theme throughout the design; you can find it on her clothes and even on the pistol holster. Putting thought and effort into such intricate details is something very enjoyable and ultimately leads to a more convincing result.



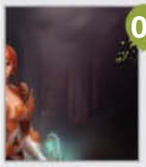
02 Asymmetry I chose to make her hairstyle asymmetric to make her costume more visually dynamic and to give her a more individual look. Asymmetry can be a very useful way of creating a distinct silhouette.



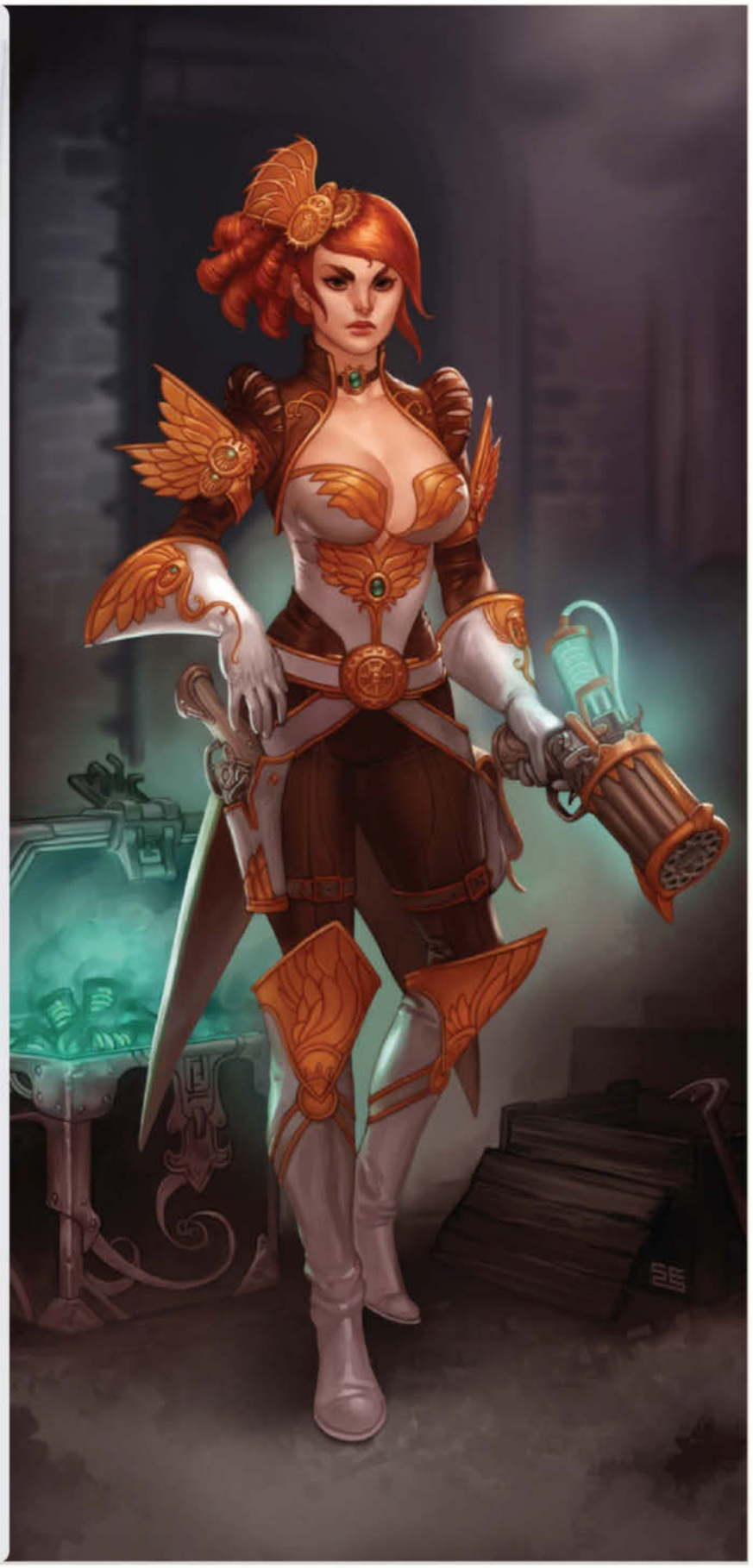
03 Firepower The steampunk setting just screams for a special and unique weapon. Something futuristic and powerful, yet keeping the antique look. When creating the design I drew inspiration from real antique pistols and Gatling guns, and combined them with a fantastical yet functional-looking aspect: the glowing power cells.



04 Dramatic tension Not amused at being disturbed during a successful raid, the heroine is reaching for her gun. I chose to go for a dark background with the eerie greenish light emanating from the power cell to emphasise the tense atmosphere.



05 Drop bad ideas The initial design incorporated a lamp hanging somewhere in the background to provide a source for the backlighting, but when rendering the background it was clear that this didn't work. The lamp simply distracted too much from the character and had to be removed from the scene.





> It's wise to make sure you have everything defined clearly before moving on. A little spontaneity will prove handy, but not as handy as a solid base

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info

Marco Nelor

Personal portfolio site **marconelor.tumblr.com**
Country **US**
Software used **Photoshop**
Currently living in Chicago, concept artist Marco Nelor spends his time listening to music, drawing and painting.

Create dramatic lighting effects

Vibrant Flight **Photoshop**

Learn essential brush techniques to create dramatic lighting and vibrant colour

Marco Nelor Concept arist

Fantasy paintings are ever so popular, with many digital artists plying a profitable trade from a range of different styles. With the right skill set and techniques, you too can create concepts for multiple parties within the entertainment industry. This tutorial aims to give you a head start.

You'll begin with the sketch phase, drawing out some rough ideas in Photoshop, then you'll discover essential ways to add colour, detail and cohesive lighting to your images. Special effects will breathe further life into these designs, mainly through the use of dramatic lighting effects that enhance atmosphere.

Of course, this is all made possible using Photoshop tools and options. Custom brushes have been supplied on the disc so that you can make the marks seen in this tutorial. You'll also discover ways to layer these new brushes, using the power of Photoshop's blending modes to produce exciting lighting effects.

Brushes are used to paint texture and detail, with Lock Layer and clipping mask controls letting you shape your final design exactly as you want it. Ways to introduce tonality and colour temperature, again enhancing atmosphere, are also taught. By the end of it all, you'll be able to tackle your very own distinctive fantasy paintings.



Getting started

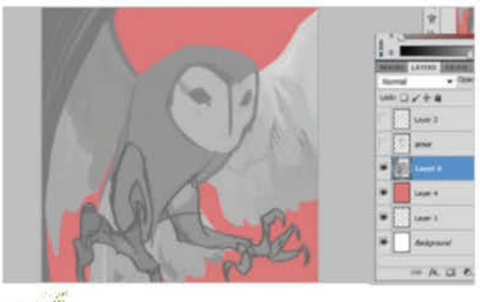
sketch within photoshop

01 Start your sketch Begin sketching the figure very loosely inside Photoshop on a new layer. This is so that you can visualise the proportions and composition you need. A three-quarter view of an owl moving towards the viewer has been chosen here. This example is the best design from a set of thumbnails, as it made sure all of the needs of the piece were met early on.





02 A clear course of action Begin tightening up your line work and organise the shadows and lights. Eliminate scribbled brush strokes, as a good, solid direction early on will dictate the difficulty of a piece. It's also wise to make sure you have everything defined clearly before moving on. A little spontaneity will prove handy, but not as handy as a solid base.



03 Separate the sketch You'll want to make sure that your bird is on a separate layer without any loose or extra strokes. Check for such artefacts by creating a layer beneath the sketch layer and fill it with a pink colour. This reveals any stray white and grey brush strokes in and around the sketch. If there are any in your image, you will need to erase these.

Source files available

On the CD, you will find all the brushes needed to replicate the effects learnt in this tutorial. Simply upload the advanced photoshop.abr file by double-clicking it

Working Progress

Use coloured layers to build up vibrant art



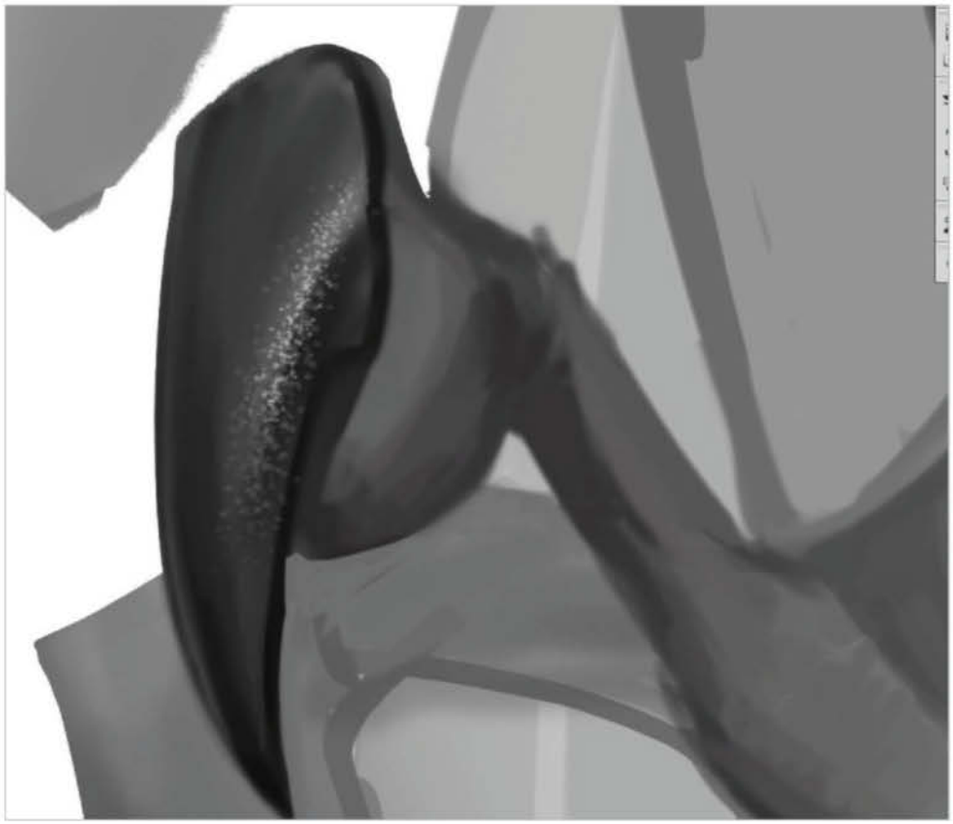
Progress 1: Rough sketch



Progress 2: Add background

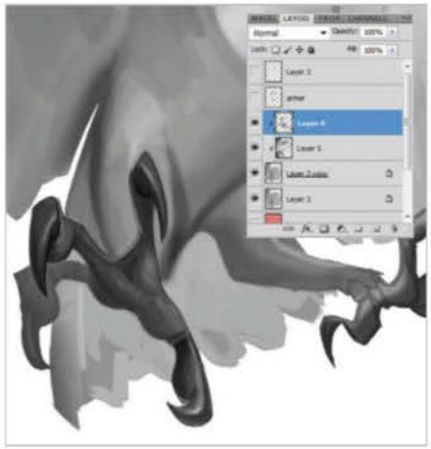


Progress 3: Create lighting



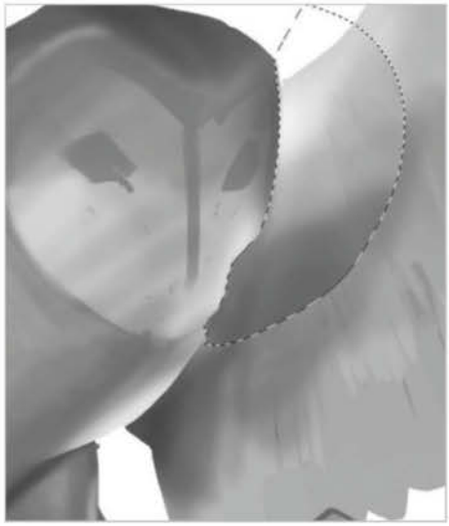
Quick Tip

The secret to applying textured brushes successfully is to build up gradual details using consistent strokes. Keep your textures and textured brushes from getting too messy, as they may begin to lay down too much texture and overpower the entire effect.

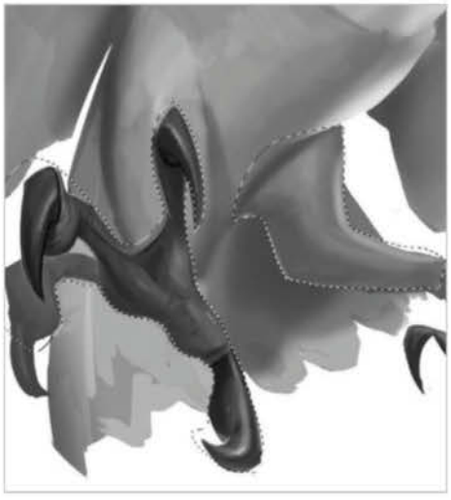


04 Add texture Early on in a painting, it's good to add a little texture to certain areas. Later, these earlier signs of texture may show through and help to pick out subtle shapes, giving the painting a bit more life. Upload the advanced photoshop.abr and select the brush labelled '20'. Paint texture near the light areas of the talon. Be careful to not to paint too brightly this early on, however, as increasing the contrast too soon will make areas seem overly bright or blown out later.

05 Copy and paste A useful trick when creating similar features like the talons is to use a copy and paste. Since the shapes will be painted over later, you won't run the risk of each talon looking too similar. Select a talon with the Marquee tool (L), then press and hold the Cmd/Ctrl key as you drag the selected area to another location. Doing this creates a duplicate of the selected item.



06 Create atmosphere It was decided that the head would read better if it were in front of the far wing, so you need to add a little bit of atmosphere. Using the Marquee tool once again, select an area outlining the owl's face and a portion of the wing behind it. Select a rounded brush with soft edges and begin stroking in the lighting from the top down, as your light will likely be a top-down lighting.



07 Form shadow Getting comfortable with the Selection tool? Good, as you're about to practise that same technique here by carefully selecting the legs of your owl. Now press Cmd/Ctrl+Opt/Alt+I to invert your selection. This effectively lets you paint behind the selected area. Use another soft brush in order to paint in some shadow behind the legs. Again, take care not to paint your marks too dark.



08 Paint feathers It's time to start painting feathers. To do this, select the brush labelled '700', which closely resembles the hackle you can find in owls and other birds. Take care to not add strokes too wildly. Instead, apply in a uniform manner, tracing the existing contour in your owl's form. This means you'll create a more authentic appearance. Studying a real-world reference to get the right look isn't cheating.



Detailed blueprint

Lay the foundation for focal points, texture and form



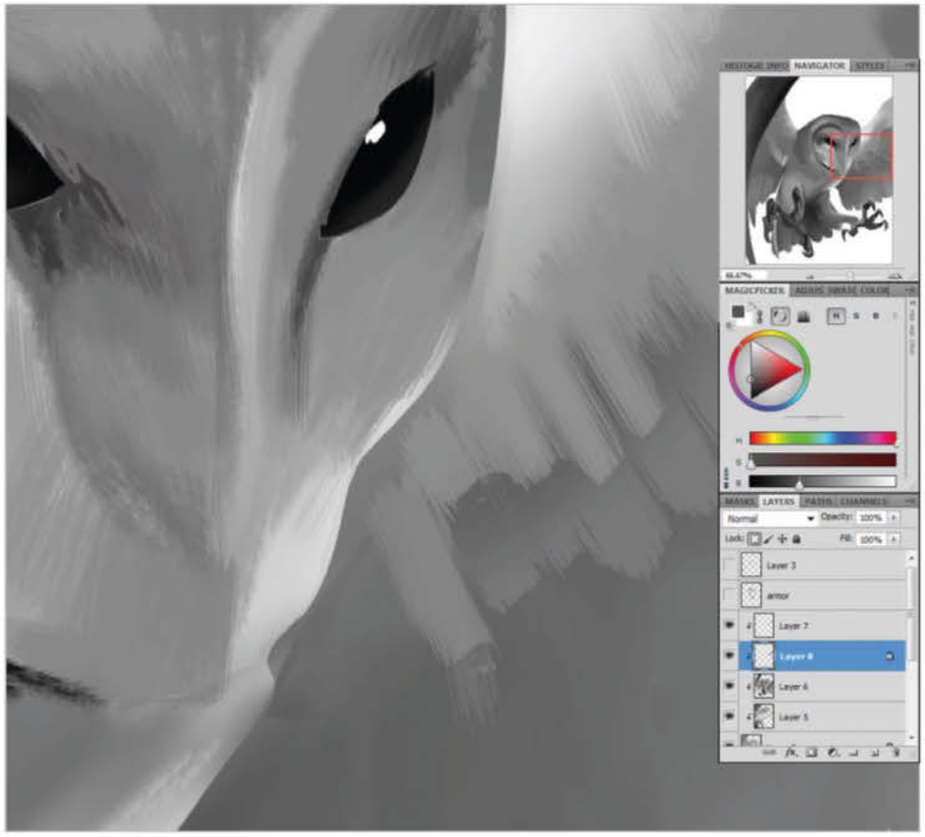




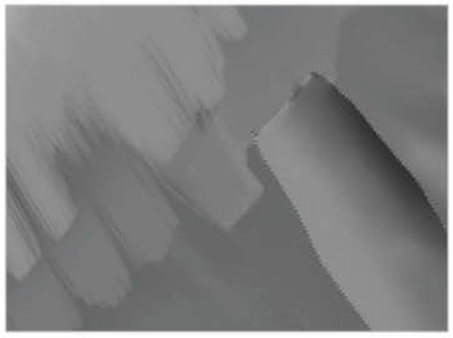
09 Add blacks Up until this point, the image will be rather grey. But this is fine, as it has allowed you to make sure that the focal point is yet to be decided. Usually, you'll want your focal point to be your subject's face. So it's here that you'll apply your first solid black to create the owl's eyes. Use a Selection tool to draw out a good shape for these, then fill your selection with a solid black. This makes the eyes the darkest point of your piece and therefore your point of focus.

10 Hide selections You'll have made quite a few of these by now and they can be distracting. With an area of your painting selected, in this case the eyes from the previous step, press Cmd/Ctrl+H to hide your selection. Sometimes doing so will help you see what you're doing more clearly. With your selections hidden, you can begin detailing the eyes, which is done using a soft grey brush on the outer area and a sharper white brush for the reflective highlights.

11 Build feather textures Continue painting your bird and refining your form and shapes. Uniformly paint the wings, slowly building colour until you create solid-looking results. Try to stay within the appropriate tonal range. Do this on a new layer (Cmd/Ctrl+Opt/Alt+Shift+N). The smoother you keep your forms now, the cleaner your painting will be later. It's not until the very end, when bringing all your painting marks together, that you start to fashion feathers with your strokes.



> Begin detailing the eyes, which is done using a soft grey brush on the outer area and a sharper white brush for the reflective highlights



12 Render feathers It's a good idea to layer your painted feathers. Start with smaller feathers near the top of the wing and paint three rows. Begin with the bottom row, painting in loose feathers. Add a layer on top and paint values that create the shadow from the feathers that will be above that. Then paint those feathers in on a new layer above your shadow layer. Working backwards in this way makes the feathers appear to be casting shadows.

13 Paint long feathers Now that you're done with the smaller feathers, you need to paint a larger one. First, create a new layer (Cmd/Ctrl+Opt/Alt+N), then use the Marquee tool (L) to create a long, feather-like rectangular shape. Use a soft round brush to paint one side dark and another side a bright grey, manually creating a gradual gradient. This gives the illusion of a single feather, which is longer and thicker than the rest you've just added.



Render your look

Create dramatic lighting, contour and detail in your image







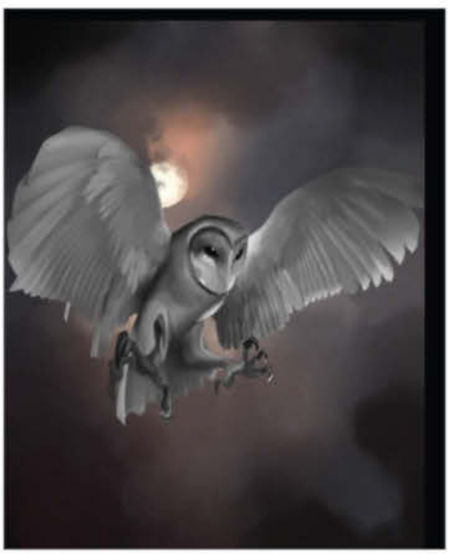
14 Copy and paste feathers Using what you've learnt about the Marquee tool and the duplicate technique, you now implement a combination of the two. Remember the long gradient feather you just painted in the last step? Well, now you're going to copy and paste this into a new layer and slightly enlarge it. Place it so it overlaps the original large feather layer. Continue to copy, paste and place a few dozen times until you have a long row of feathers.

15 Break up repetition Build upon the last steps by repeating their processes, painting and placing feathers in the owl's opposite wing. Make sure you follow the right direction for an authentic look. To break up the monotony of some of these feathers, erase parts of the edges in some of your layers. Also elongate some of them slightly and skew the shape of others a bit. This allows you to create the beginnings of a very interesting wing pattern for your owl.

16 Uniform lighting Now that you've created your feathers, you will need to add larger shadows. First, merge down your owl layers, then make sure that this new layer is locked by clicking on the Lock icon located at the top of the layers tab. Now, apply a large, dark grey, soft round brush and lightly add some shadow to the rounded parts of the top of the wing. This makes sure your wings are being lit by the same light source as the rest of the image.



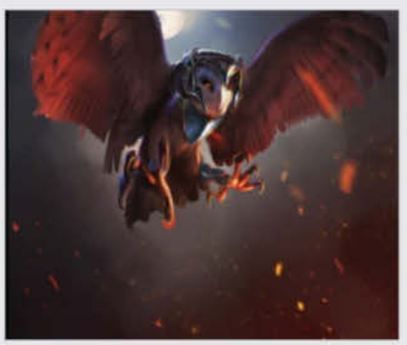
17 Start the background Since your owl is on its own layer, you can create a layer beneath and begin the background. This image will eventually reveal a bright scene with sparks and cinder flying from a fire. However, to make these effects workable, you need a dark, muted background full of dark purples, dark browns and dark reds. While it seems dark now, adding your effects later will help keep the focus on your owl, rather than spreading the focus around haphazardly.



18 Secondary light Since the plan is to have your main light source closer to the viewer, a secondary light source can be established – in this case, the moon behind the owl. On a separate layer, draw a circular selection with the Elliptical Marquee tool. Set this layer's blending mode to Color Dodge and paint in the moon with a few large strokes, using a neutral grey colour. This gives the moon its glow effect. Also use the same brush around the moon to give it a halo effect.

Quick Tip

When painting to a Color Dodge blending mode layer, using a grey colour will create a very natural and even glow. Painting with a saturated colour gives a glow similar to that colour.

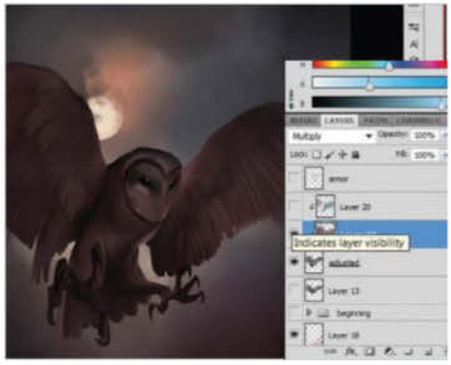


Mastering sparks

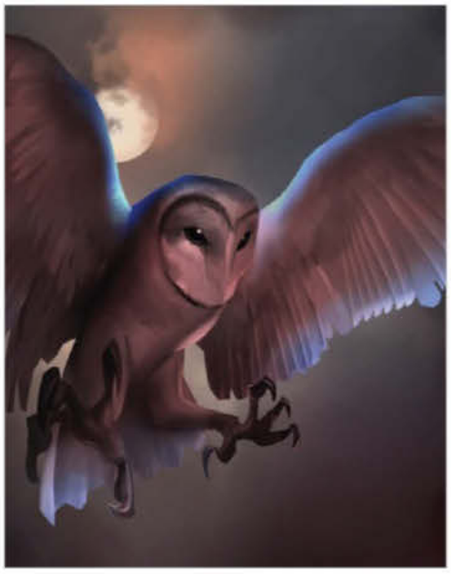
You'll see that spark effects were added to the final image. You can recreate this effect by using several layers and a very easy technique. Create a new layer, set its blending mode to Color Dodge and scatter in some simple sparks with an orange-coloured brush. Now duplicate this layer. Duplicating a Color Dodge layer into itself will make the sparks glow even brighter than before. Now you must copy, paste and place your sparks around the image by selecting the Move tool, holding Opt/Alt and dragging them to other locations. Create depth of field effects, making some seem close up, others further away.

Quick Tip

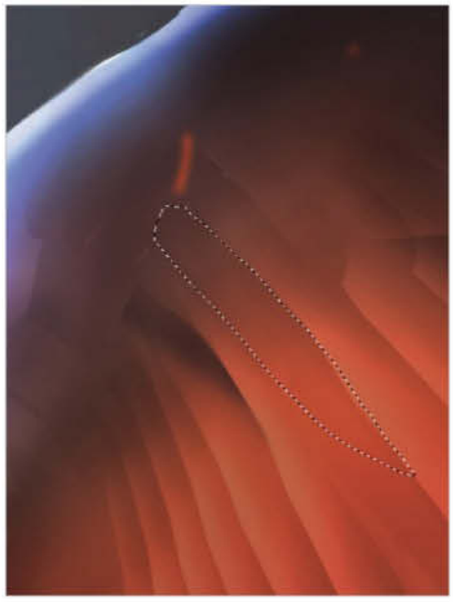
Now that your major elements are completed, go over everything you've done and detail your brush strokes and lighting. Keep taking a step back to check your progress. This will ultimately help push the piece to final completion.



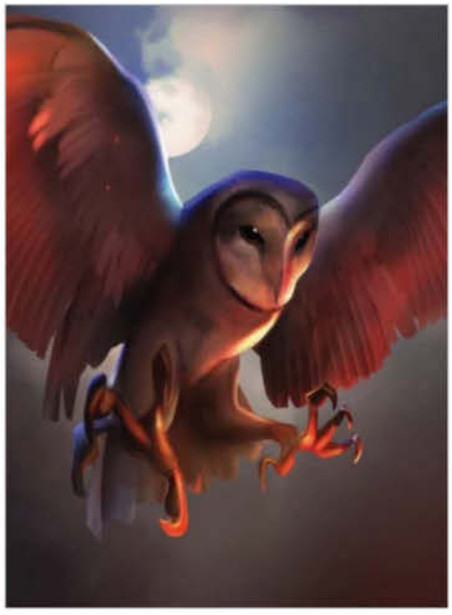
19 Clip layers Back with your owl and it's time to add a little colour. At this stage, it's best to keep everything simple – and in this case dark. Create another layer above the owl layer and link the two by hovering your mouse between the layers while holding Cmd/Ctrl. Click and it links the layers. This will ensure that anything painted on this layer will only affect the layer below it, which will be your owl layer and not the background.



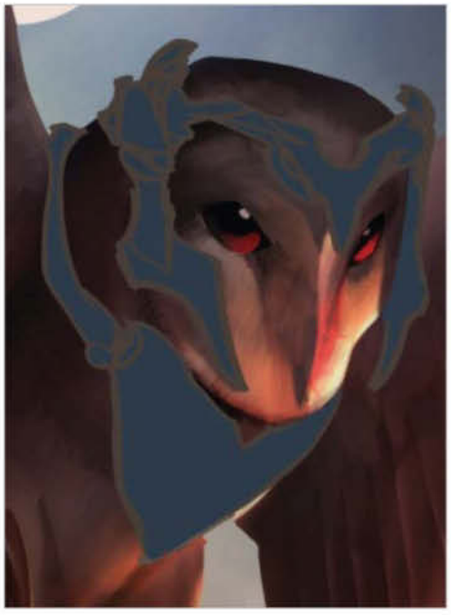
20 Reflective lighting Using the same method outlined in the last step, create another layer, except this time set its blending mode to Color Dodge. Link the layer again. Even though it appears to be linked to the last layer, they're both actually linked to the owl layer. Use this layer to add both blue rims of light in the edges of the wings and yellow lighting that emulates reflection from the fire. You can also erase lighting and reapply until you're satisfied with the effects.



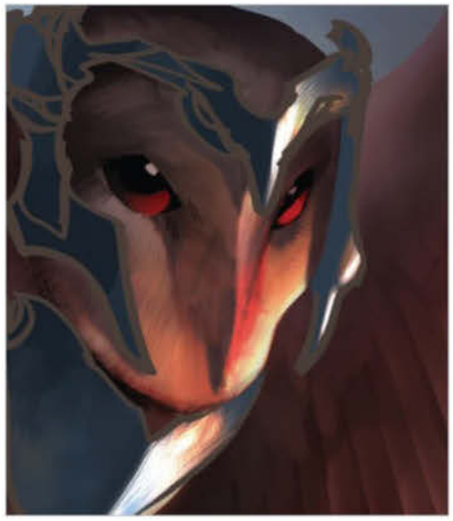
21 Bring it back Since the layer below this new light layer is a dark brown colour, it's possible to bring back shadows – just erase areas from the Color Dodge light layer above. Create dramatic shadows in the feathers by using the Marquee tool to make selections like in the example shown, then delete from these. This method is much better than painting with more black because the darkest colour has been established at this point.



22 Back and forth At this point in your painting, it's important that you start to flesh out your colouring and continue to tweak your image lighting. You could also add more subtle hints of colour, perhaps some purple or pink hues. Always remember that if you want to add more lighting, then you do this specifically to your Color Dodge blending mode layer. You can take this away by simply erasing it to show the layer beneath.



23 Add armour Now that the hard part is over, you can begin to make some armour that fits with your image lighting. Use a solid colour that outlines the entire shape of the armour on a new layer, then lock it. This allows you to paint evenly over the entire shape, rather than painting each piece individually. Doing the latter has a higher chance of throwing off the balance of the armour. Do the same for the armour's trimming.



24 Final details In the same way as you've done in previous steps, create another layer and lock it to the armour layer. Set the new layer's blending mode to Color Dodge and choose a saturated orange colour. Paint this on the side of the armour that you feel should receive the most light, with the brightest parts nearest the crease. This gives you a balanced exposure, and good shadow and light separation. Repeat the same process for the trimming. Use the Hair brush (brush 125) to zoom in and add more detail to the face, working your way outward from the focal point and detailing as you go.



Sci-fi concept art

Another World **Photoshop**

Discover how to use a dull 3D render plate to create a striking sci-fi scene

Christian Hecker Concept artist Illustrator

Artists, in every artistic field you can think of, have different approaches to realising ideas. When it comes to concept art, you have to work quickly to create something that mirrors the initial idea and creates mood and atmosphere. It's not so much about creating a pixel-perfect painting. One approach would be to start with rough brush strokes that become more and more detailed over time. A different approach is to use a plate picture, which can be from a photo or a 3D render. In this case, it's a plain 3D render.

The advantage to using this is that there is a lot of information on it. Things like highlights, shadows, colours and atmosphere can easily be sampled off the plate image, which can help you to find a starting point. In this tutorial, there is a 3D plate that serves as a base. You will then use painting techniques to add more depth. You will also use photos, with the help of blending modes and textures, to suggest more detail. Last but not least, take a look at how filters can give it a stylised look. Now, it's time to see how to bring some life into a dull scene!



Source files available

All textures used and the complete PSD can be found on the disc. The PSD contains extended layers, showing how the different elements can be used

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info

Christian Hecker

Personal portfolio site **www.tigaer-design.com**
Country **Germany**
Software used **Photoshop**

For the past few years, I have focused on creating environmental concept art and illustrations using digital matte painting techniques. I learnt everything in an auto didactic way, and I now build my own techniques to create fantastic landscapes for practically everything, from book covers to games and movies.

Working Progress

Use coloured layers to build up vibrant art



Progress 1: Room for detail



Progress 2: Create a rough painting

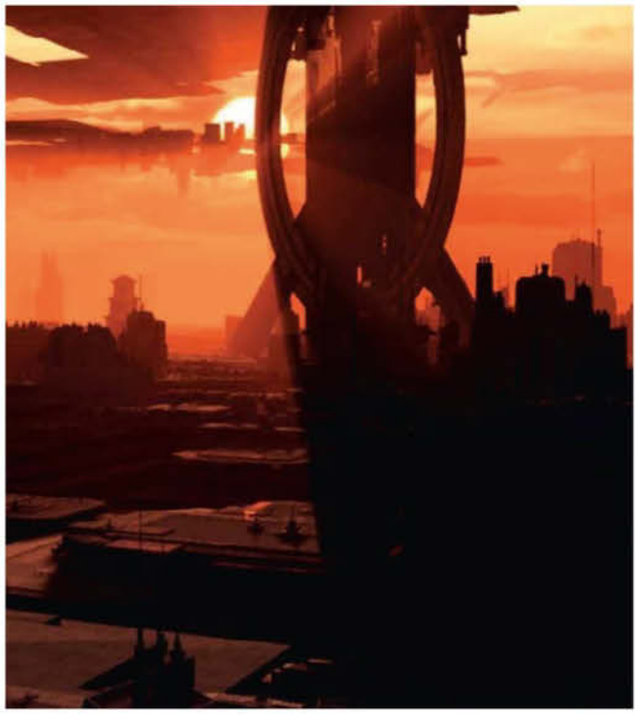


Progress 3: Build a dynamic scene



Build the plate image

Replace the sky and add detail



01 The plate First, go onto the disc and gather up all of the resources. Load the 'plate.psd' file into Photoshop. Immediately take a look at all the space available to you for extensions, specifically in the sky region. That is what you should focus on right at the beginning; adding in a sky replacement.

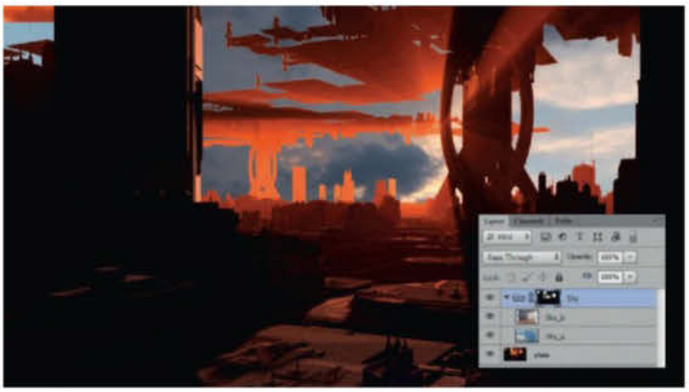


02 Preparing the sky replacement Open 'sky_a.jpg' and load the image into Photoshop. Hold Cmd/Ctrl while dragging the picture onto the 'plate.psd' tab in the upper-left corner of the screen. Hold your mouse there until the 'plate.psd' appears. Then, move your mouse onto the picture and release the mouse. Repeat the procedure with 'sky_b.jpg'. Double-click the layer name in the Layers palette to change the names of the imported photos to Sky_a and Sky_b and put them into a new folder titled 'Sky'.

> "Masks are perfect tools for non-destructive work, and allow you to go back at any time to fix or adjust things"



03 Channelling the sky Next, open the Channels palette. If not active already, it can be found via Windows/Channels. Hold Cmd/Ctrl and click the small preview thumbnail of the Sky channel. A selection should appear. Switch back to the Layers palette and click the Sky folder. To apply the selection as a mask, click the square and circle icon at the bottom of the Layers palette. Notice that the mask is inverted. Just click the mask thumbnail next to the folder and correct it with Cmd/Ctrl+I.



04 Fixing the mask Near the horizon, you will see a few small holes in the mask. First, release the selection. Hit M and click somewhere on the picture. With the mask still active, use the Eraser (E), Ctrl/right-click and select a small standard round brush to fix the areas. The colour white closes the hole and black opens areas in the mask, and you can easily switch between them using X. Masks are perfect tools for non-destructive work and allow you to go back at any time to fix or adjust things.



05 Replacing the sky #1 Click on the eye symbol left of the Sky_b layer to toggle it invisible and select Sky_a. Since it's far too big, use Cmd/Ctrl+T to transform it. Make the bottom part of the image align with the horizon. Go to the upper-left point, click, and move it to the upper-left corner of the workspace. Do the same for the right side. Use squashing and stretching to make the sky fit the perspective and sit nicely in the scene.



06 Replacing the sky #2 Toggle Sky_b visible and do the same as before, but move the right side more into the picture. Now set Sky_a to Vivid Light at 66% Opacity and place the layer above Sky_b. This gives a bit of extra texture to the clouds. Now, set the Sky folder to 70% Opacity to make it blend a little more with the overall scene. To fix areas around the sun and horizon, click on the Sky folder mask again.



07 Blend the sky With the mask selected, use the Eraser (E), Ctrl/right-click and take a soft round white brush at 277px and 0% Hardness. Now add some aerial perspective by painting along the horizon line as well as softly reducing the impact of the overlaid photo textures around the sun. Be sure to have Opacity set to Pen Pressure, under Transfer in the Brush settings (F5).

Quick Tip

To add a little bit more detail to your brush strokes, open Brush Properties (F5). Check Scattering and set it to 133%. Transfer should also be active, with the Opacity set to Pen Pressure. This is an easy way to suggest more detail when painting simple things, especially if using a tablet.



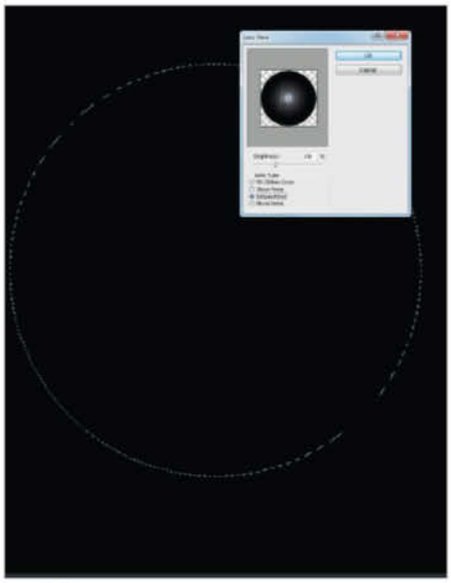
08 Looking for detail Now it's time to focus on the city. While there is great depth and nice silhouettes, it could still do with a little more detail. For orientation, open and import 'specular.jpg'. Hit Cmd/Ctrl+A, switch to the Move Tool (V) and use the buttons in the tool bar to align it horizontally and vertically. Rename the new layer 'Specular' and set the blending mode to Screen or Color Dodge. This will give you an overview of the areas (marked white) that need a little extra detail.



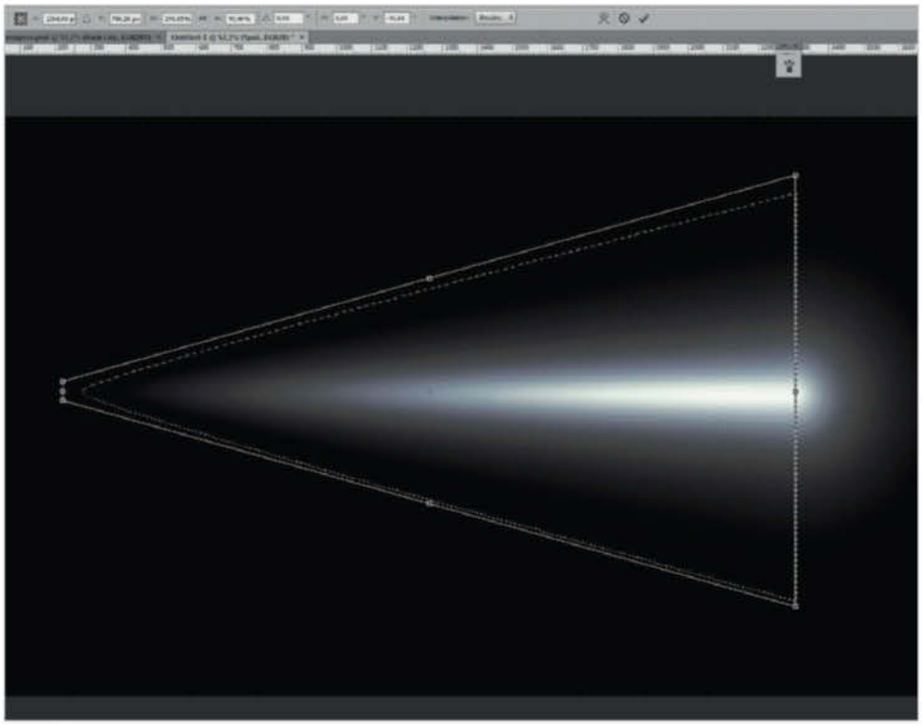
09 Painting detail Painting highlights onto the edges of certain structures adds more detail and depth, but accuracy is not too important right now. First, make the Specular layer invisible, hit Cmd/Ctrl+Shift+N to create a new layer and name it 'Painting'. Use a round brush at 6px Size and 90% Hardness and start to paint along some of the edges of the buildings. Hold Opt/Alt to switch to the Color Picker and sample highlight colours right off the picture.



10 City background extension Create a new layer via Cmd/Ctrl+Shift+N and name it 'Back City'. Now create a hint of city far in the distance by sampling (Opt/Alt) a darker colour from the foreground. Again, use a hard round brush with a size of 22px. Hold Shift while painting short, straight vertical lines into the background. These don't have to be accurate, since you only want to suggest detail. Last but not least, set the Opacity of the Back City layer to 75%.



11 A plate of light #1 To bring in lights, create a separate picture that will serve as an additional plate. Cmd/Ctrl+N creates a new file. Make it 3000px wide and 1650px high. In the new picture, fill (G) the background black. Press Cmd/Ctrl+J and name the new layer 'Point'. Hit the Marquee tool via Shift+M until the round selection is active. Hold Shift, draw a circle selection and fill it black as well. With Filter/Render/Lens Flare, 100 Brightness and the 105mm Prime, try to locate the centre of the flare and execute the Filter.



12 A plate of light #2 Create a copy (Cmd/Ctrl+J) of the Point layer and name it 'Spot'. Turn the Point layer invisible and move (V) the Spot layer to the right. Run Filter/Noise/Median with a radius of 24px to avoid artifacts. Hit Shift+M until the square selection tool is active again and create a selection right through the centre of the light. Via Cmd/Ctrl+T, stretch the light to the left. Ctrl/right-click to select Perspective, click the upper-left corner, drag it down and hit Enter. This results in a light beam-like shape. Save the image as 'light_plate.psd'.



13 Make it shine Now it's time to bring the lights into the city. Press Cmd/Ctrl+A and then Cmd/Ctrl+C. Switch back to the city, paste (Cmd/Ctrl+V) the beam in there and change the layer's name back to 'Spot'. Do the same for the Point layer. Put them into a folder named 'Lights'. For now, toggle Spot invisible, click the Point layer and set it to Linear Dodge. Press Cmd/Ctrl+T, reduce the size by holding Shift, find a spot to put it and hit Enter.



14 Adjusting the lights Scatter lights by holding Alt Gr. Easily vary the light sizes with Cmd/Ctrl+T and the colours with Hue & Saturation (Cmd/Ctrl+U). This results in a ton of layers. If it becomes too much, just hold Cmd/Ctrl, select all the Point layers in the Layers palette and press Cmd/Ctrl+E. Set the blending mode back to Linear Dodge. The same procedure can now be used for the spotlights. Playing with parameters like size, colour and opacity help to add variation to the lights.



15 Texturing #1 First, create a new folder and name it 'Textures'. Open 'IMG_1561.jpg' into your project, put it into the Textures folder, name the layer 'Lights' and set its blending mode to Lighter Colour. With Cmd/Ctrl+T, reduce it to a third of its original size and turn it 90 degrees. Now place it on the facade of the right building. To remove unwanted parts that still are visible, go into Levels (Cmd/Ctrl+L) and change the middle value to 0.75.



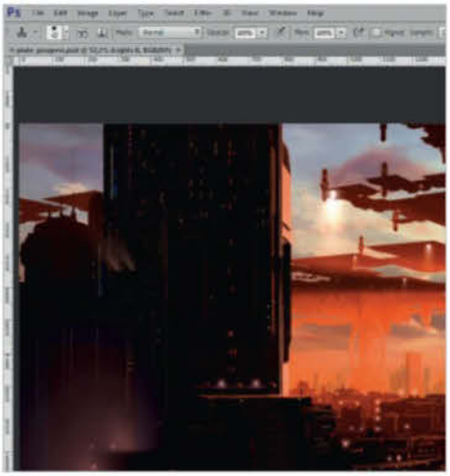
16 Texturing #2 Detail is all about variation. Load 'IMG_0903.jpg' and treat this texture the same way as in the previous step. Press Cmd/Ctrl+J to create a copy. Name one copy 'Lights B' and the other copy 'Facade'. Toggle Facade invisible and click the Lights B layer. Press V and move the layer to the right building again. Use 28% Opacity and the Color Dodge blending mode. Different blending modes help to create variation in the lights.



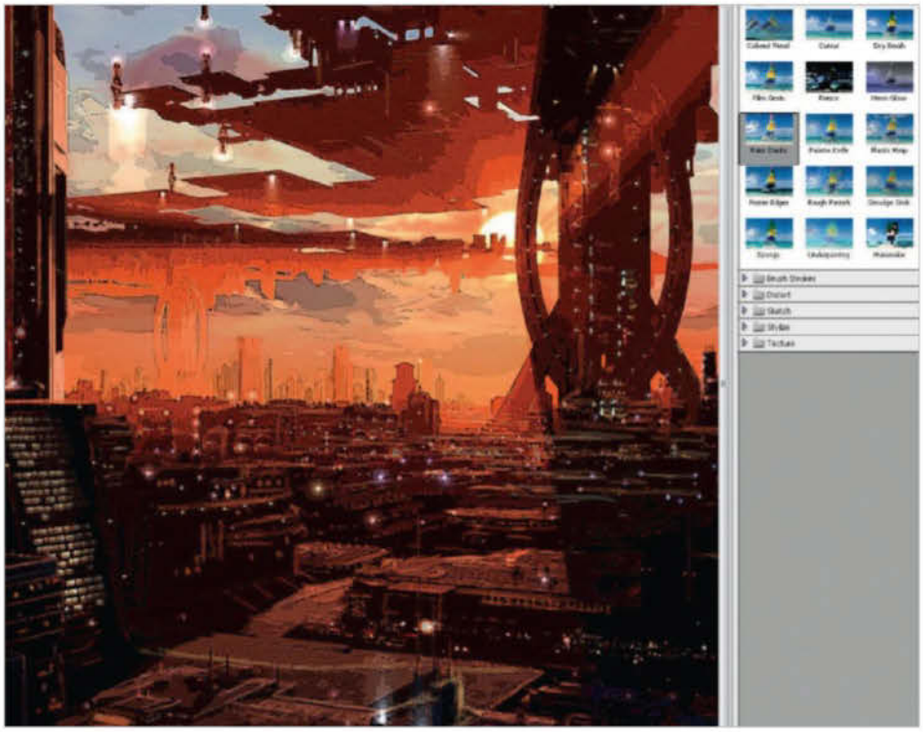
17 Make it sit While you are allowed to be a little sloppy, you should still keep perspective in mind, especially when applying textures to buildings. The lines of light in the Lights B layer do not exactly match the building. To fix that, use Cmd/Ctrl+T again to go into transform mode. Reduce the size and make it sit better by adjusting the upper and lower-right corner points. Hold Cmd/Ctrl+Shift while dragging the points up and down.



18 The other side Now, toggle the Facade layer visible again. Select the layer, hold Cmd/Ctrl and move it to the tower on the left side. Again, transform (Cmd/Ctrl+T) this texture, make it smaller and turn it 90 degrees. Set it to blending mode Lighter Color and 24% Opacity. Create a copy (Cmd/Ctrl+J), transform to squash it a little and move it down. Now you have a few textures to copy and paste onto other elements. Use the Eraser (E) to remove parts you don't need.



19 Sampling details These textures can also serve as plates. For example, to get more detail into areas that still look a bit empty, just click the Lights B layer and choose the Clone Stamp (S). A simple round brush does the job fine. Be sure to have 'Current Layer' active. Check and uncheck 'Aligned', depending on whether you want to sample a light over and over again or if you want to paint an area. This is an easy way to duplicate windows and lights.



20 Additional touches After adding/extending textures and lights with the techniques explained above, it's time for the additional touches. Hold Cmd/Ctrl, select all layers, press Cmd/Ctrl+J and Cmd/Ctrl+E to create a copy and merge them down. In Filter/Filter Gallery/Artistic, select Poster Edges. Use a Thickness, Intensity and Posterization of 2. However, art is all about personal preference. If you wish to create a more realistic image, as seen on the first pages of this tutorial, don't apply the filter and instead add in detail like the lighting bolts.

Quick Tip

If you are working in a newer version of Photoshop, you can easily import images by dragging the file from your desktop into the Photoshop workspace of your current open project. It will automatically create a new layer. Be sure to uncheck 'Place or Drag Raster Images as Smart Objects' in the Photoshop Preferences.

> "Playing with parameters like size, colour and opacity help to add variation to the lights"

Build videogame concept art

Troll **Photoshop**

"Learn how to paint a *Skyrim* scene using Photoshop tools with Ray's easy-to-follow tutorial"

Ray Lederer Concept artist

Photoshop has forever changed the landscape of possibilities for artists. The software provides an ever-increasing toolset that has a wide range of use. As digital painters and illustrators, we use a focused bandwidth of tools on a daily basis to create new worlds and ideas. Sometimes we're asked to create a unique piece that has a specialised goal and in this tutorial you will see just that, as we take you on an unorthodox yet simple path to the final product. Here we've frozen a moment in time in a pre-alpha *Skyrim* scene and then painted over it to visualise what we really wanted it to look like. This painting was originally designed to be video-captured, used as inspiration for, as well as part of, an internal sizzle reel for our company, then later released to the public for marketing.

Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



ray lederer

Personal portfolio site **www.raylederer.com**
Country **USA**
Software used **Photoshop**

Ray is a concept artist at Bethesda Game Studios in Rockville, Maryland USA. He began using Photoshop professionally in 1998 for his first videogame job as a character modeller/texture artist/animator. Since then he's learned to use Photoshop as an indispensable illustration tool for the entertainment industry, as well as books and other projects.





Lay the foundations

Block in forms and establish a base





01 Get started Sometimes in concept art you are asked to do a paint over, which if you haven't guessed already is a painting over a pre-existing image to further visualise an idea for the rest of the team. Photoshop is the perfect tool for this kind of work as it enables you to iterate on top of source images to create anything you like, without some of the headaches of having to start from scratch.

02 Block in forms Begin with your source image pasted on its own layer separate from the backdrop, leaving the Background layer neutral. Start roughing and blocking in your subject with your choice of brushes. Here we're using a round brush set to 60-80% Edge Hardness with Opacity set to 80%. You can use the lighting in the scene to guide your tonal choices or come up with a new scheme.



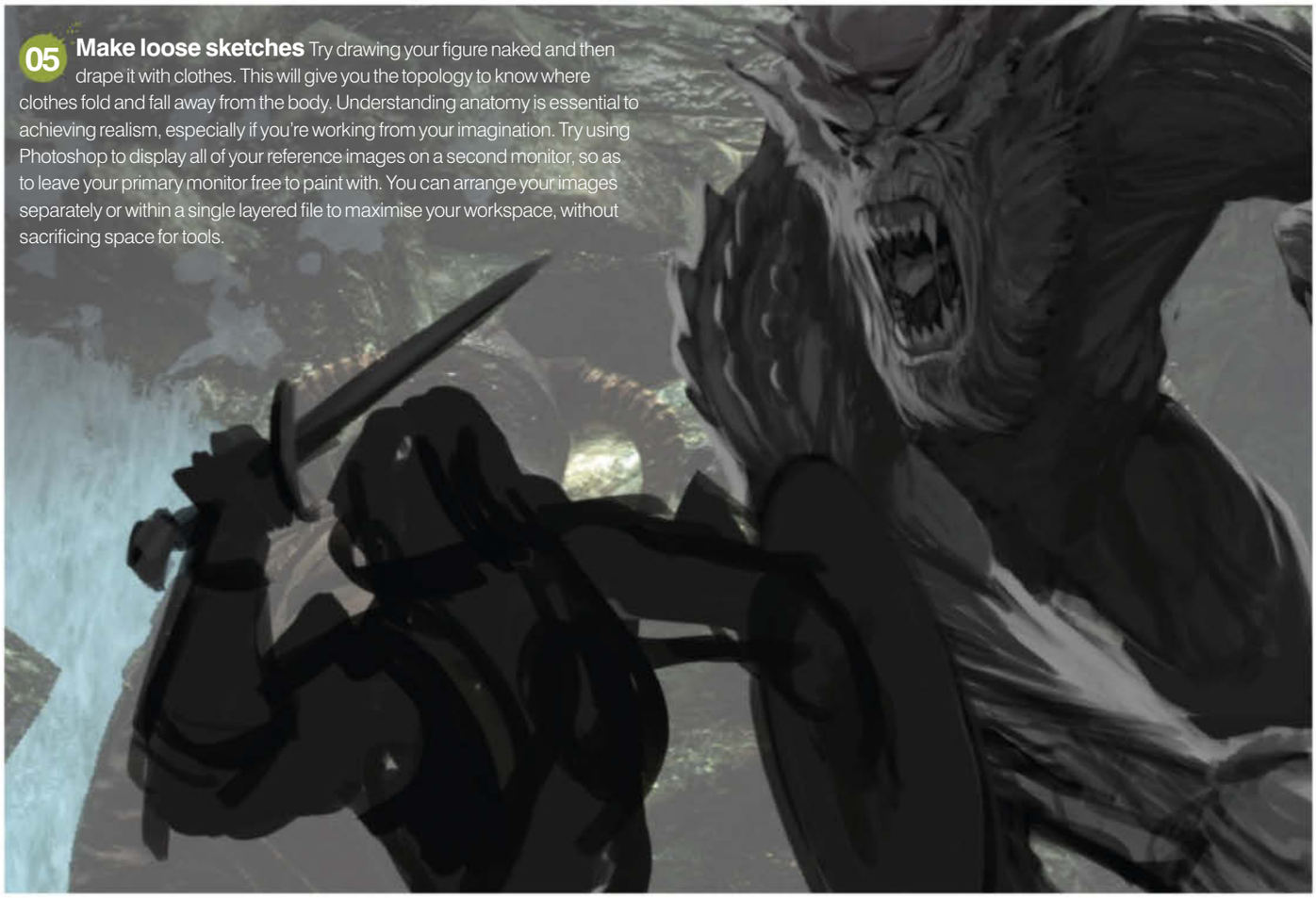


Quick Tip

A general rule of thumb is that objects in shadow or intense brightness tend to lose definition and edges, so play with soft edges and low detail in the shadowed areas.

03 Adjust the figure Painting on layers can be an essential method for composing an image. Don't be afraid to use your Free Transform tool (Cmd/Ctrl+T) for quick adjustments to your figures. You can use the Lasso tool to select portions of pixels to move or rotate. You may also need to scale a hand that's too big or a leg that's at the wrong angle.

04 Adjust the foreground character Don't neglect certain tools for the sake of artistic purity, as you can bet da Vinci would've been all over these tools if he lived in our time. Experiment by roughing in quick studies of figures in separate layers to see what works. Use sloppy brushes to fill in large spaces and capture the energy of the pose.



05 Make loose sketches Try drawing your figure naked and then drape it with clothes. This will give you the topology to know where clothes fold and fall away from the body. Understanding anatomy is essential to achieving realism, especially if you're working from your imagination. Try using Photoshop to display all of your reference images on a second monitor, so as to leave your primary monitor free to paint with. You can arrange your images separately or within a single layered file to maximise your workspace, without sacrificing space for tools.

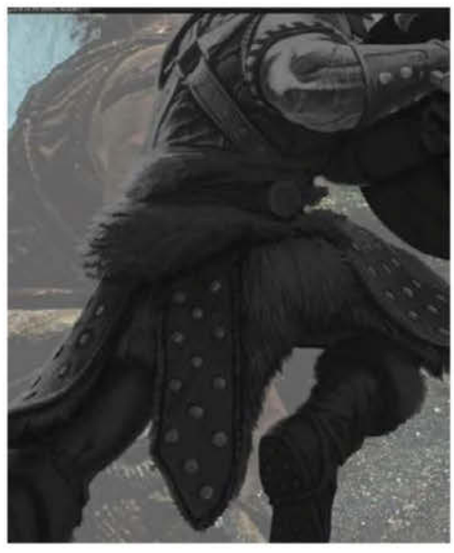
06 Commit to a shape Once you have gone through several iterations of figures, it's time to decide which is going to work best. Now you can start lighting and detailing your figure. Create a new layer to paint on top of so you can make mistakes freely. It's advisable to keep your layers minimal, as it's easy to get lost and forget which layers have what information in them. Failing to organise layers will result in more maintenance and a prolonged painting process.

07 Apply selections Select your canvas, hold Ctrl then press the left arrow key once. This will snap your selection around every pixel on that layer. It will also move everything over one pixel to the left. While still holding Ctrl, press the right arrow key once to return everything to its original position. Now you have just the pixels of that layer selected to do whatever you like with. This may sound complicated but after repeating the method you'll quickly adapt.

08 Work out the details Now it's time to become a leatherworker, armourer and seamster. We want to sell the world of Skyrim as a tangible experience for the player, so it's time to start painting details. Once the basic forms are laid out you can start focusing on the details like studs, fur and engraved designs. Use a combination of hard round and chalk brushes with varying opacities and Edge Hardness settings. There's no right way to do this, so just experiment.









Build up the details

Add more features to your character concept

09 Begin unifying your values Don't worry about the extremes of your value and colour gamut yet. Let's get your elements feeling like they're occupying the same atmosphere and light, even if it's not correct yet. You can use a variety of tools in Photoshop to achieve this. Cmd/Ctrl+L will bring up your Level graph, which is quite useful for crushing ranges of value into just a few manageable key values. You can also rein in hotspots and black shadows by using the Dodge & Burn tool (Cmd/Ctrl +O).



10 Take stock of your progress Spend some time looking at your image objectively. Write notes to yourself in a separate layer if there are areas in your picture that need addressing later. It's easy for things to fall by the wayside if you're not careful. Now it's time to start painting your background on a single layer with simple hard round and soft round brushes.



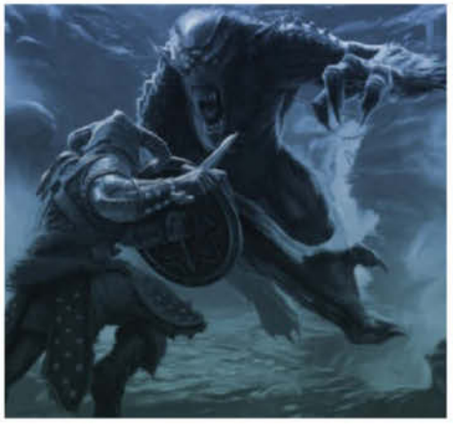
11 Bring in colour Create a new layer, fill (Shift+F5) a single tone to be your base atmosphere and set this to Multiply. This is why you want to keep your value range in the midtones, as if you stray too far out to the extremes, the Multiply setting will blow them out even further. The further you are away from a neutral value (50% grey) the more exponentially blown-out your values will be.



12 Add tones to the figures Now it's time to start colouring the figures. If you have crushed down the B/W paintings into single layers, you can use clipping masks to paint on top of your individual B/W layers. Clipping masks are extremely powerful and you can layer many of them on top of a single raster layer. If you've never tried it, simply create an empty layer above the layer you wish to paint on, Ctrl/right-click that layer and select Create Clipping Mask. Set your clipping mask layer to Multiply (or whatever suits your needs) and start painting on top of your B/W layer.



13 Paint details Get in tight and start fleshing out details on the troll. Try to hint at blood vessels around the soft thin skin, particularly in the eyes and mouth. Using clipping masks, you can paint roughly around the edges and not worry, because you're under painting will act as a mask.





Complete your concept

Add more features to your character concept

14 Insert adjustment laye You can use adjustment layers to affect any part of your Layer Hierarchy you like. Now can be a good time to place one on top of your layers and adjust with the sliders to balance your Hue, Saturation and Lightness. You'll also need to bump your Saturation up to +20 or so.



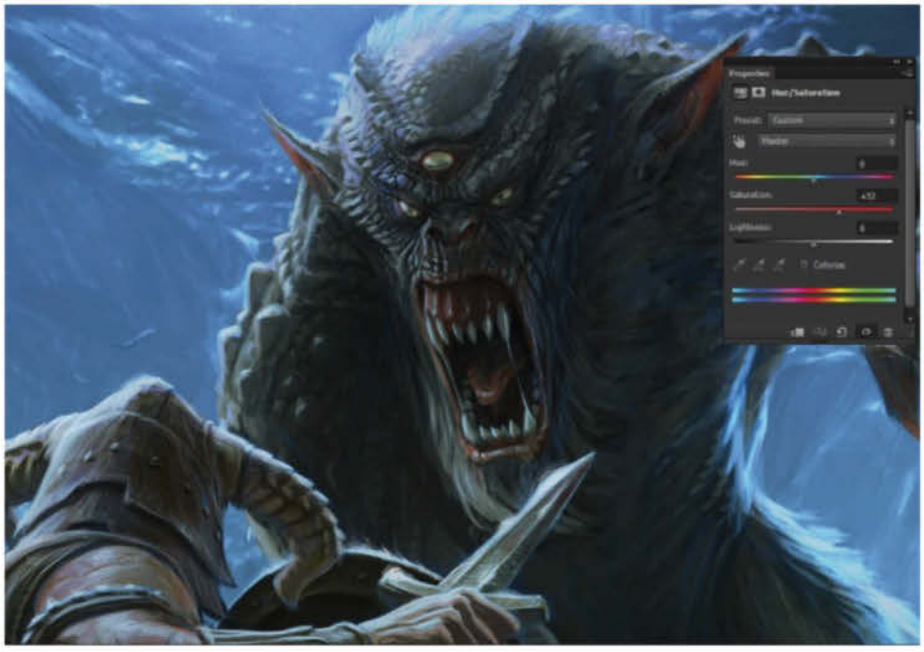
15 Chip away to refine There's really no secret sauce here, it's all about picking colours and chipping away at the image. Use a chalk-style brush for applying, pushing out flinty shapes and contours like rivet highlights and seams. The way light catches those details in your image will help to sell the 3D effects.



16 Polish and tweak Most of the hard work is done in the B/W value study, so now it's time to enjoy tweaking and wrapping up. Use your adjustment layer to settle on what you feel is a well-balanced picture, then paint in your highlights and dark shadows on a separate layer on top of everything else.



17 Final touches Now it's time to commit. Flatten your image, copy and paste it onto a separate layer and paint any tweaks or experiments with Dodge & Burn for even higher-contrast highlights and shadows. This is also a great way to get even more subtle lighting cheaply onto your picture. You can paste a flattened version of your image on top, then change its Hue/Saturation or any other values to create hotspots or focal points by erasing away pieces of the altered top layer.



Quick Tip

Flip your canvas often to check if your composition is working. If it feels balanced when reversed, it's likely a good composition. You can set this up as a hotkey using Actions. Go to Window>Actions and create a new Action, press the Record icon at the bottom of the Action window, then open Image>Image Rotation>Flip Canvas Horizontal. Toggle the recording off by pressing the Stop button at the bottom of the Action window. Assign a hotkey to that action and you're good to go.

18 Print ready Sometimes it's good to use a Gamma and Exposure adjustment to correct for printing or different temperature qualities on cheaper screens. Go to Image>Adjustments>Exposure and use the slider bars to correct as needed for whatever output you are targeting. You will find that every printer is different but a general rule of thumb is to print the correct gamma right around 1.10-1.20. Bumping up the Exposure setting by around 20% can help increase the saturation without crushing your high-value fidelity, but make sure to save multiple versions just in case.



Clipping masks

Crush the B/W paintings into single layers so you can use clipping masks to paint on top of your individual B/W layers. You can layer multiple clipping masks on top of a single raster layer. Create an empty layer above the layer you wish to paint on, Ctrl/right-click on that layer, select Create Clipping Mask and start painting on top of your B/W layer. You can treat your clipping mask like the layer beneath and it'll mask any other layer you create.



Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info



Dark Hoffman

Personal portfolio site **www.darkgrafix.com**
Country **USA**
Software used **Vue Infinite, Photoshop**
Concept art, designing props, environments, matte paintings

Build matte paintings

Neverland 2013 **Photoshop, Vue Infinite**

"Here we will look at how Vue and its various options can be used to create matte paintings for film or TV"

Dark Hoffman Concept artist

Source files available

- Tutorial screenshots

Concept

The image of Neverland is an iconic one used in film, television and on the stage. The purpose of this exercise is to create a look for the island that can be used as a matte painting for a blockbuster or a TV series. First we will create the look of the island in Vue and then take it into Photoshop for post-production work.

I've used all different types of software for my digital matte paintings, but Vue is the go-to program that I use when I can't find the right landscape, mountains, skies or foliage.

In the following steps I will explain how I use Vue for matte painting projects in the film and commercial industries. I'll reveal how to create terrains, a calm ocean and an extended landscape including Metablobs.

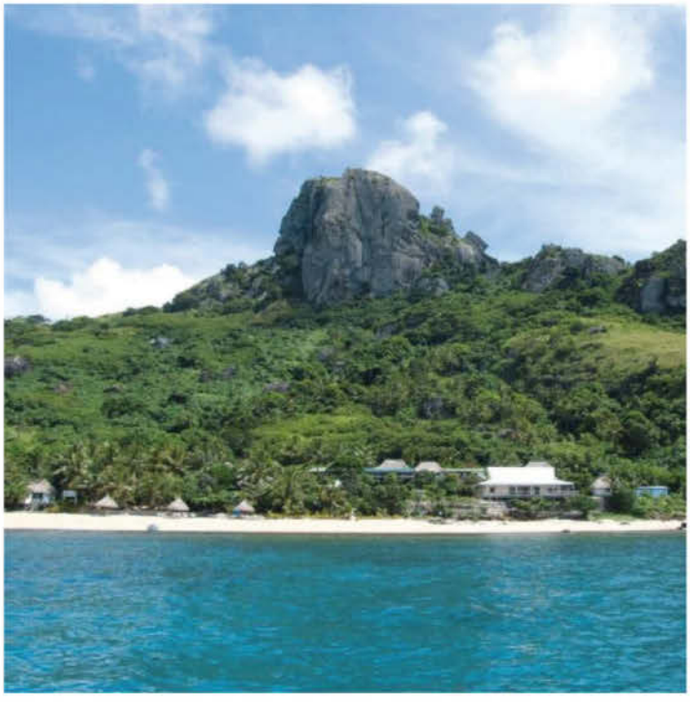
The outcome could be used as an establishing shot of an island to show where the next scene takes place. Usually these are pretty shots. As such, after the scene is rendered fully in Vue, I will take it into Photoshop CS6 and tweak the colour, make a Levels adjustment and add any small finishing touches to make it ready for the final shot.



Design the layout

Establish the broad shapes of the new island



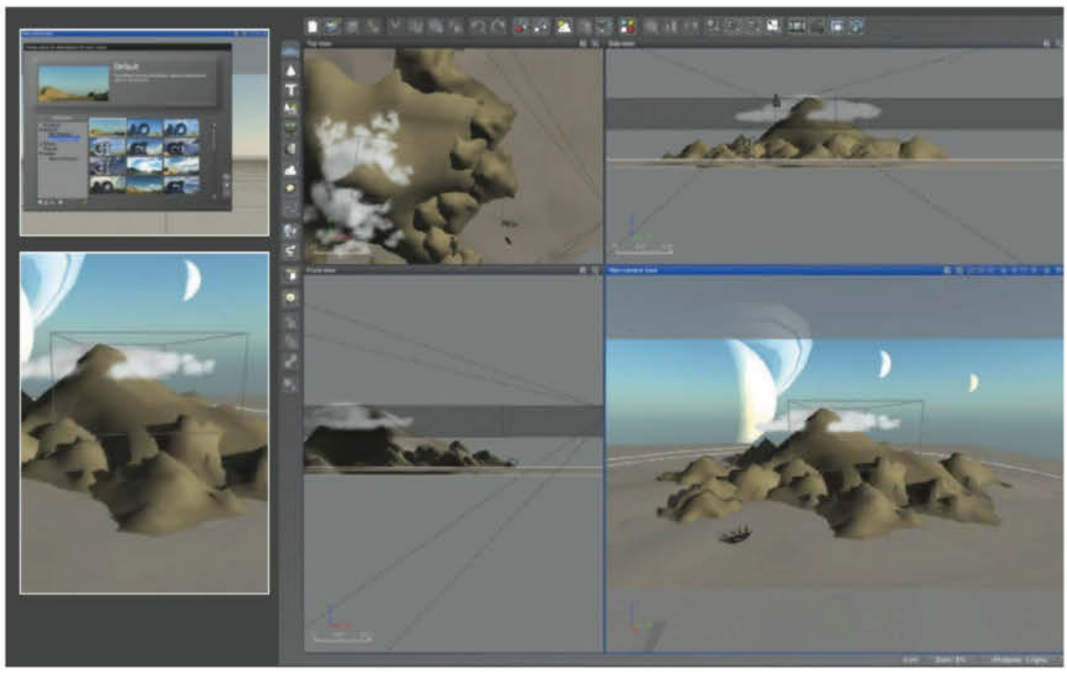


01 Create a new world The first thing that is needed to create an environment is an idea. Usually the production designer gives the art team the proper artwork to show what the world looks like. Colour, layout and a theme are very important to start a matte painting. Also we are normally given a plate or a frame of the film to start with, but sometimes we have to start from scratch, which is what we will be doing here in Vue. We'll lay in terrains from the Vue Library and edit them so they represent islands and mountains.

02 Find reference To make an impressive island you need to know what it looks like in terms of shape, texture and colour. You also need to decide what the look of the environment is, which includes atmosphere, time of day and where the ice will be placed in the scene. In our case, the script calls for 'an overall aerial view of Neverland as we fly towards it through the clouds. It's a tropical-looking island with coves, waterfalls and a snow-covered mountain in the centre. Captain Hook's ship sits silently in Cannibal Cove.' We can start creating the terrains by bringing in set terrains from the Vue library. We will then start laying out the central mountain and background with the terrain tools.

03 Set up the building blocks To help with the render time and to work with the scene in an easier fashion, we will open a default scene before we add an atmosphere. In our scene we'll start by bringing in a simple procedural terrain.

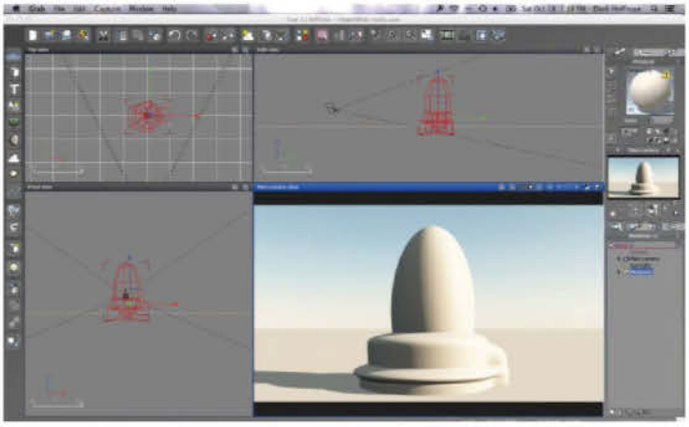
> "To make an impressive island you need to know what it looks like in terms of shape, texture and colour"

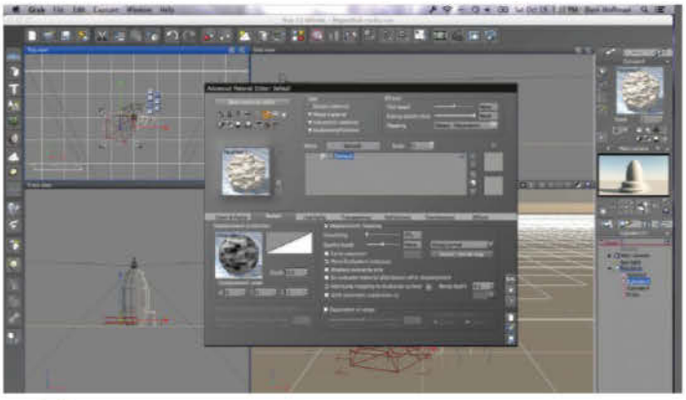




Set the scene

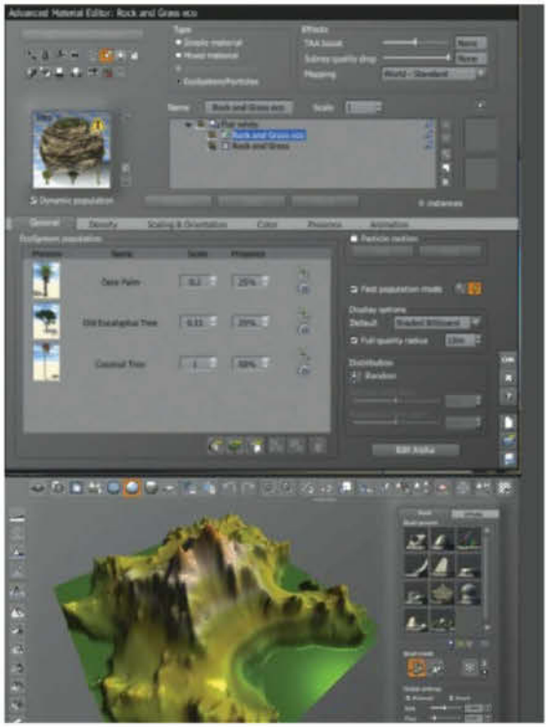
Unlock the beauty of Vue's evolution

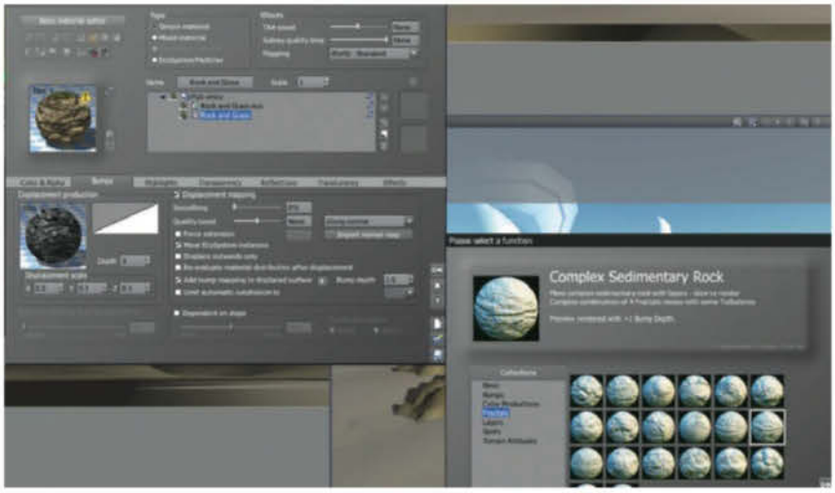




04 Work with Hyperblobs The next stage in the new version of Vue is building with Hyperblobs and Hyperterrains. You can stack these in any formation and any configuration of simple geometrical shapes and then simply select the Hyperblob tool. Pick the right Bump map and you have yourself a realistic-looking rock structure. Any material can be added for an even more photorealistic feel. You don't have to follow this shape exactly to build the rocks, but make as close a match as you can.

05 Group the shapes With the structure of the rock built, hit the Hyperblob button. This will group your shapes and create a blobby shape, one that looks closer to an actual rock shape. Double-click the Material Editor and hit the Bump tab. Select the ball and another box will open, which offers options relating to which Bump map you can use. Here we'll use Complex Sedimentary Layers, although you can try all the options if you wish. With your Bump map applied, change the scale so the arch appears larger and closer to the scale we need.





07 Apply materials The centre of Neverland has a mountain with snow that goes down to grass and rock using a mixed material. You can play with which material you want to be used most. Here I made one island that I then used for various areas of the main island, meaning I didn't have to populate the main terrain with an EcoSystem and slow down the render. I named this island 'Neverland Cove' and saved it as a separate scene so when I need it, I can merge it into the main scene. Be sure to delete the Sun and ground that won't be needed.

06 Shape the mountain Start adding terrain from the Terrain Library. When you've brought one into your scene, double-click the object and a new window will open where you can edit the terrain model. Click the left-hand buttons, jumping from dunes to mountains until you get a good shape. In the EcoSystem editor I also added three default plants – date palm (25% Presence) old eucalyptus tree (25% Presence) and a coconut tree (50% Presence).

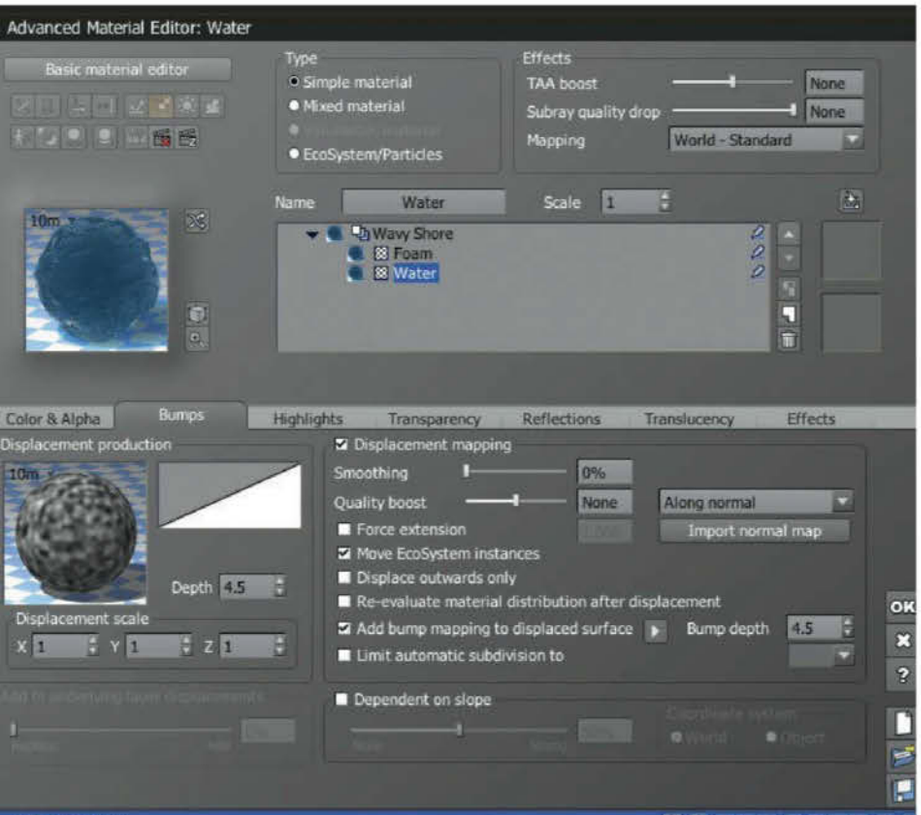
Painting with plants

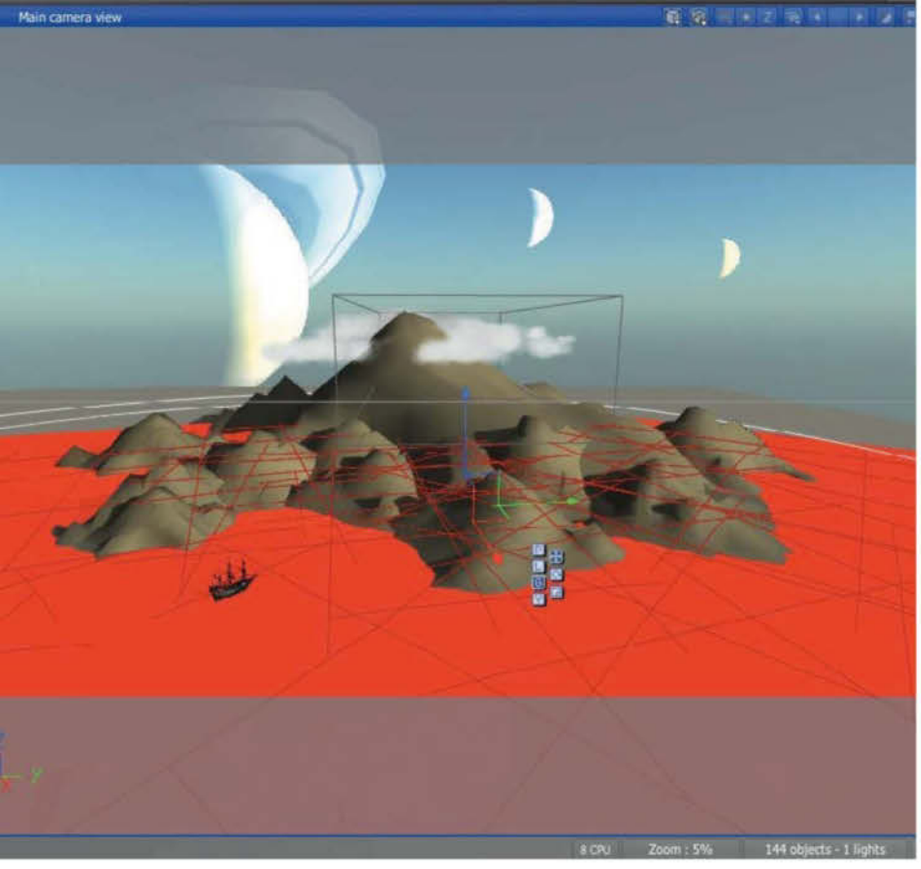
If there are certain areas that need to be populated with plants, you can just paint them in. Painting the flora will create a separate layer so it won't be attached to the terrain. Hit the Eco Paint button and choose which plants you want to paint. You can change the size of the brush and the scale of the plants to suit. The brush paints directly on any areas of the terrain, no matter its shape. This is a great way to add exactly what you need, where you need it.



The ocean and beach

Build up a tranquil ocean and a sandy shore



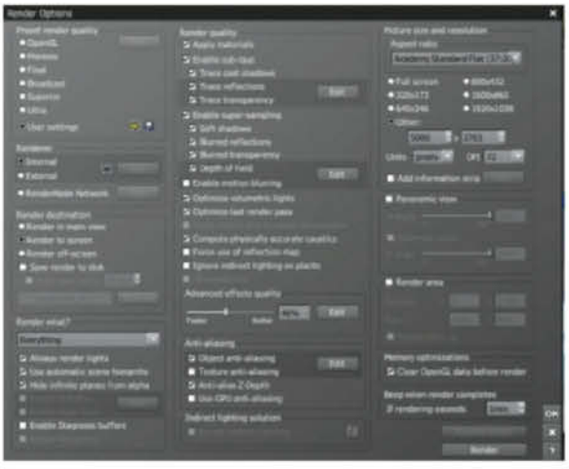


08 Include MetaWater and scenic beaches Adding an ocean is just a click away in Vue and editing it is now even easier. Essentially we want shoreline foam, so start by selecting a MetaWater with Foam. To add a beach, select a simple terrain and flatten it, then add a sand material and make sure it comes through just enough to form a beach before sinking into the water. You can adjust how much of a beach you want, but in this example we just want the most sandy areas around the cove. Duplicate this and add it around the perimeter of the island where you want to see beaches and have them trail out into the ocean, so there's some overlap. This may take a bit of adjusting, but the results are fantastic and will really help to sell the realism of the scene.





09 Add planets This is probably the easiest part of the process and a lot of fun. On the left of the interface, in the menu bar, you'll find a thumbnail of Saturn. This is the Planets button. Click it and a planet will be added into the sky automatically. To edit this, go to the top-right of the screen and you'll find a drop-down menu from which to choose the planet you want, as well as its phase, colour and brightness.



10 Render time Now we're into the final stage of the Vue process. To keep the render time down to a minimum, turn off anything you don't really need, as well as anything that can be completed in post-production using Photoshop. Try to maintain a good balance between keeping render times down, while hanging on to everything you need.



Final touches

Input the finishing elements and move to post-production





11 Add Hook's ship For the pirate ship I added a model of The Golden Hind from Poser. You can use any ship from Cornucopia 3D or Poser, or any 3D model you have access to. I brought it in with textures and baked it, so it was compressed, then placed it in the cove. This is the only element in the scene that wasn't created in Vue. It can also be added later with Photoshop.

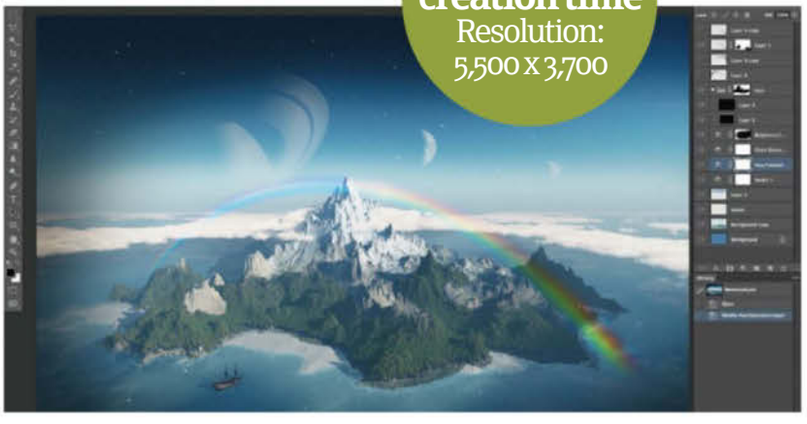
12 Take the image into Photoshop Now you can bring in the image rendered out from Vue and do some retouching in Photoshop. First let's play with the levels to bring some of the blacks in and help with the contrast. Desaturate the image a little, about 25%, then add a bit of colour back, mainly the blues. Following this, add a dark vignette around the image to add some depth and make it feel like it's out in another universe. All this will help sell the fantasy element of your image.



40 hours
creation time
Resolution:
5,500 x 3,700

13 Place more elements Since we can see planets surrounding the island, we also need stars in the sky, which will be reflected in the ocean. I have a personal collection of starfields, but you can grab plenty for free online or paint them in yourself. I recommend you download a few and try them out. Pop them in the file and screen, then add a layer mask and paint out any stars over the island and the planets.

14 Final details For the final touches I added foam around the shores, as well as little waves. Vue can add these to the scene for you, but since our camera angle is so high it would be hard to see. I also added some small waterfalls around the island as a nice finishing touch. There you have it: a realistic image of Neverland.



Design robot mechs

Tex Mechs 2012 **Photoshop**

Israel A Carrion paints a sci-fi mech illustration, taking inspiration from classic Western movies

Israel A Carrion Illustrator

The first thing I always ask myself when creating a sci-fi illustration is how I can make this stand out from the other work that's out there. Mixing two themes is a great way to create something familiar but unique at the same time. For this sci-fi illustration I'm going to add robot mechs to the Wild West. Both of these genres are popular at the moment and both have strong good-versus-evil narratives.

When I think about Western movies, the classic scene where the good and the bad (and occasionally the ugly) face each other before they pull out their guns comes to mind, with plenty of tension and expectation. But another inspiration for this piece comes from the classic sci-fi scenes of giant robots fighting or a huge creature attacking a city – think of *Transformers, Godzilla* or *Thor versus The Destroyer.*

I have three main elements then; the hero, the villain and the town where the action takes place. First I paint thumbnails in Photoshop to explore different compositions. During the development process, my hero goes from a human or a cyborg to another big mech controlled by a human inside, and the enemy appears in different sizes, too, with the bigger version more intimidating. There are different possible moments of action and storyline here. Did the attack over the town start first, so we can see people running away? Or are the two robots fighting and the town's just unlucky enough to be in their way? I prefer a deserted street anticipating the action as this creates more tension so the viewer can imagine what is going to happen later.

Once I know what I want for the illustration I start the research for the mechs. I know I don't want anything too stylised with curves or organic shapes, as I want to keep them a big mass of metal with straight shapes and old, rough textures. To understand the functional part of the robots, it is very important to look at the real world. Segmented insects or other animals can provide great references for the way robots and imagined machines might move. A spider excavator, for example, is a fantastic reference. I also take a look at the book *Mechanika* by Doug Chiang, one of my favourites for this subject.

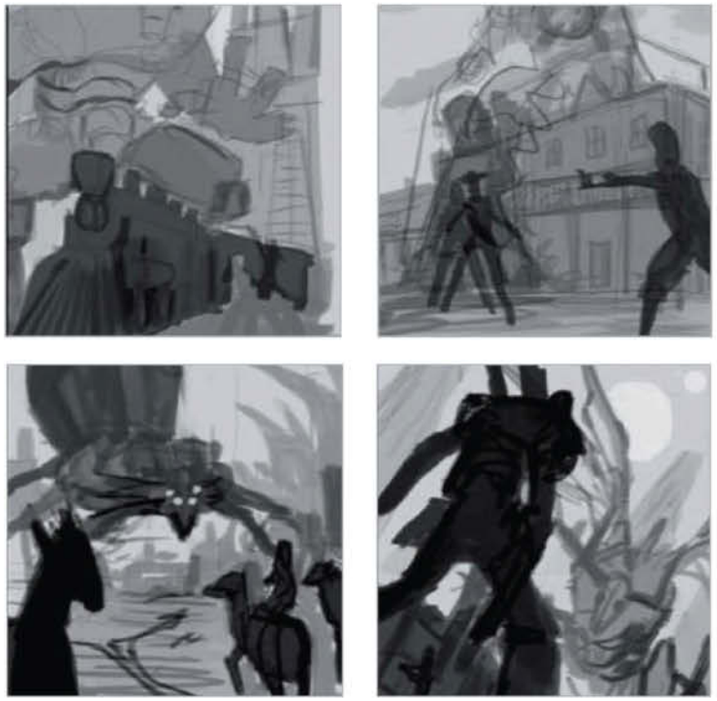
Looking at how other designers solved problems like joints and weapon integration is useful as well. Classic Japanese mechs are a big inspiration for this particular piece, but they have a very unique style so I also look at mechs from the West to make sure my image has a unique twist.

For the final illustration I start the sketch by looking at my favourite composition thumbnails. To add more dynamism, my composition has a rotated horizon so the verticals are rotated too. I keep the grid on a layer to check it if necessary and I even rotate the image to bring it back to horizontal if I find the angle of my composition too awkward to draw something correctly or in a way that's comfortable. I then quickly add some more values at this stage too.

For the hero design I go with a light body, humanoid on top but with an animal aspect to the legs to make it more interesting and robotic. I add the holster for the gun on the right leg. For the head I draw a shape to remind the viewer of a



I draw some mech sketches, giving them a Western look, sometimes even pursuing a direction I didn't have in mind initially



Composition studies are sometimes drawn as just linework, but I find that using values makes them easier to read



Behind the scenes

Digital artists explain the techniques behind their amazing artwork

Artist info

Israel A Carrion

Personal portfolio site **www.isrartistic.com**
Country **Barcelona**
Software used **Photoshop**

I live in Barcelona but frequently work for companies in other countries, specialising as a concept artist for the entertainment industry or as an illustrator telling stories through my work.

Artist showCase

Israel A Carrion's shows us his other masterpieces



Living Statues, Fighting Statues
2012, **Photoshop**
● An illustration for a Crimson Daggers challenge with 'living statues' as the theme. I love the statues you find in Asian temples so I painted a little fantasy story with the main creature being a hybrid inspired by these.



City Attack
2012, **Photoshop**
● This environment design was painted for a course instructed by James Paick. Sci-fi is one of my favourite subjects and adding some storytelling with the huge creature made it an even more fun process.



Goldilocks
2011, **Photoshop**
● I made my own version of the tale of the three bears set in the future with robot bears and an adult Goldilocks. This painting is going to be included in an art book featuring Spanish artists.

cowboy hat. I place its legs on either side of some houses to give a sense of proportion and scale. Showing a mech alongside humans and human-sized structures instantly shows the viewer how big it is, making it even more impressive and intimidating.

The design of the enemy is harder; it has more prominence so it must be even more visually interesting and lead the viewer's eye up to his head. At first I think a robot with a scorpion look would be cool, to represent the desert and totally contrast with the hero, using a big cannon on the tail to shoot. But the sketch doesn't convince me so I go for a four-legged, two-armed robot holding a giant Gatling gun.

I start colouring the background on a new layer. To emphasise the drama I set the scene just before sunset with the warm colours of twilight, really bringing out the Wild West landscape. Monument Valley in Colorado is a good reference for this. The colour variation in the sky is challenging, but I can use a very common custom brush to paint in the clouds. I add a big moon to give a sci-fi look.

I can now add the main colours to the rest of the piece with Color or Overlay layers, then continue painting on normal layers. I paint with a Charcoal, a Chalk and a ragged custom brush 90 per cent of the time. The Size Jitter is set to Pen Pressure for the Charcoal variant, but for the other two it's set to Opacity Jitter.

I use 10-20 layers and frequently merge them as this keeps my workflow organised and also keeps the file size down, but complex pieces like this can require me to use quite a lot at one time.

I paint the mech in the foreground mainly with red and add some colour variation with warm hues keeping the values dark to give it impact. For the town environment, first I paint the basic shapes of the buildings and then add some textures of wood on Overlay layers and desaturate

This is the sketch with values, before adding colours giving the structure and distribution of tones



them if necessary. Then I add another one for the road. Make sure the textures match the perspective by using the Transform tool to warp them into place. The design of the town is fairly standardised, based on my research of real Western towns, to avoid distracting the viewer from the two mechs. The cast shadows and the values over the walls are very important here to get the mood of the piece right.

Then I work on the giant mech. The process here is similar to the hero's mech, but this design is more complex. As I work it up I add some fog and use lighter values to give a sense of depth. The light source is on the right of the scene so, with Overlay and Color Dodge layers, I highlight the right side of the mechs, especially the faces, arms and weapons, because those are the focal points. After a break to refresh my eyes, I notice the big robot's silhouette is not interesting enough.

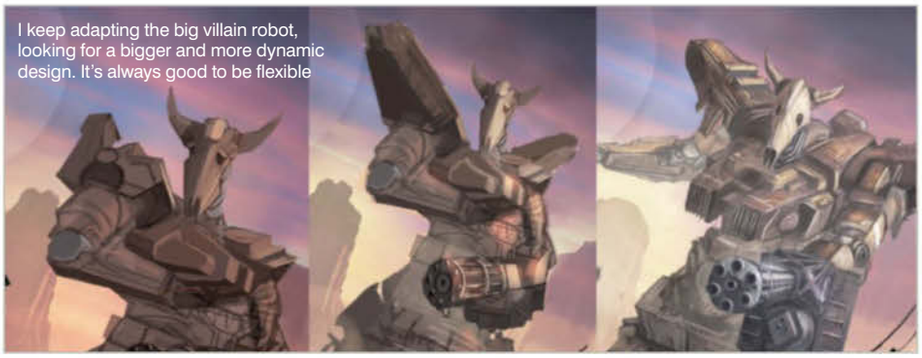
> "It's good to be open to changes in your work so if there is something wrong or something you don't like you can just redo it"

Create metallic effects and paint realistic surfaces



I want my mechs to look worn out as if they were built from scraps of old metal found in the desert long ago. If you don't feel comfortable painting a specific surface, you can make studies from the real world. I paint with dirt and rust brushes in desaturated colours on an Overlay layer. The metal should shine where the light hits, so I paint on a Color Dodge, Overlay or a Curves adjustment layer. I use a soft brush for large areas and a hard brush for tiny highlights. I paint some scratches on a Normal layer and add the last details.

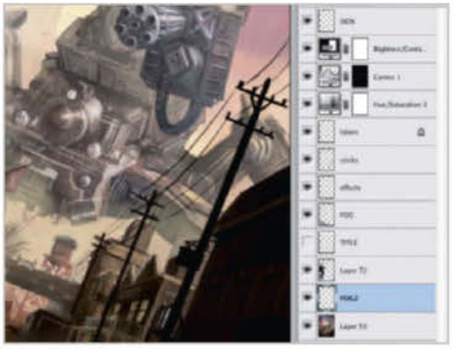




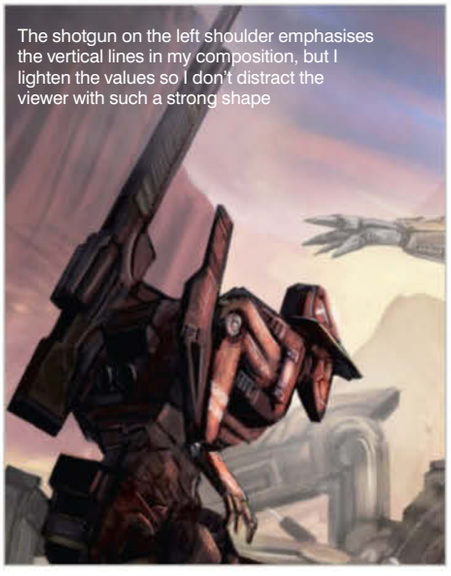
I keep adapting the big villain robot, looking for a bigger and more dynamic design. It's always good to be flexible



To give a greater sense of depth, mood and scale, the robot needs to be lighter. Use the Navigator and a Saturation layer filled with black



To add more depth, I paint in fog or smoke (with a cloud brush or soft brush) between the objects in the distance



The shotgun on the left shoulder emphasises the vertical lines in my composition, but I lighten the values so I don't distract the viewer with such a strong shape

It's too static, so I start thinking logically about it and how I can improve him. He is holding a huge Gatling gun that looks hard to reload once it is out of ammo, so what will he do with such a big, useless thing? It's good to be open to changes in your work so if there is something wrong or something you don't like you can just redo it!

I draw a new sketch over the big robot, change the pose to give it a more interesting silhouette and integrate the Gatling onto the arm, which is a common design in sci-fi pieces, but works better. With the right arm I balance the contrast for the heavy weapon, and now the four legs are more visible. One of the reasons I failed with the previous version is because I was too concerned with the strict perspective. Now I try to be more flexible and go with what looks best. I pick the colours from the previous mech and keep painting with my three most-used brushes on just a couple of layers.

I add textures to both mechs using custom brushes I have created for dirt and rust. For me the best way to do this is to paint sporadically here and there without fear on a new Overlay layer, then add a mask, invert it and paint with my Charcoal brush on the areas where I want the texture to be added.

To finish the design of the mechs, I add a few more elements to give a sense of scale and detail, like labels and stickers on a new Overlay layer. It is important to keep the worn-out look to tie in with the overall theme and really nail the concept.

With the design finished, I work on the sense of depth and atmosphere. I make a Levels adjustment on the big robot to lower the contrast, add more fog between the different elements on the sky and the road and add a few more highlights with a Curves adjustment and a Color Dodge layer.

Make it work

In order to understand how to build a robot and make it functional, it's good to think in the most basic shapes – cubes, cylinders and spheres.

Once it works you can add designs to those shapes. Action figures or model kits can be helpful, too, as they can help you to understand how they are articulated.



Develop the body

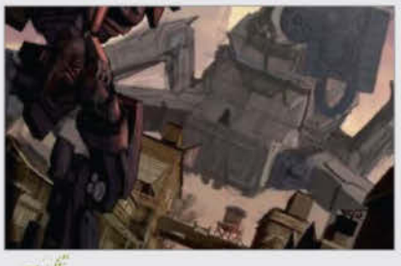
How to render the larger mech, from sketch to detailing



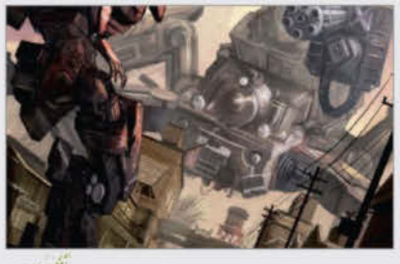
01 Rough sketch First I draw a rough sketch to define the basic lines of the robot. If I have problems drawing in this perspective I rotate the image.



02 Block colours I paint the very basic shapes over the lines; it gives a 3D aspect when working with cubes. I clean the contours and erase outlines.



03 Add details In this sketch I use lines again to draw the new shapes and start adding design elements. It is exactly the same process for the gun.



04 Push the design I look at old locomotives and include iconic elements like the cylindrical shape and the lights. I add the cables to create scale.

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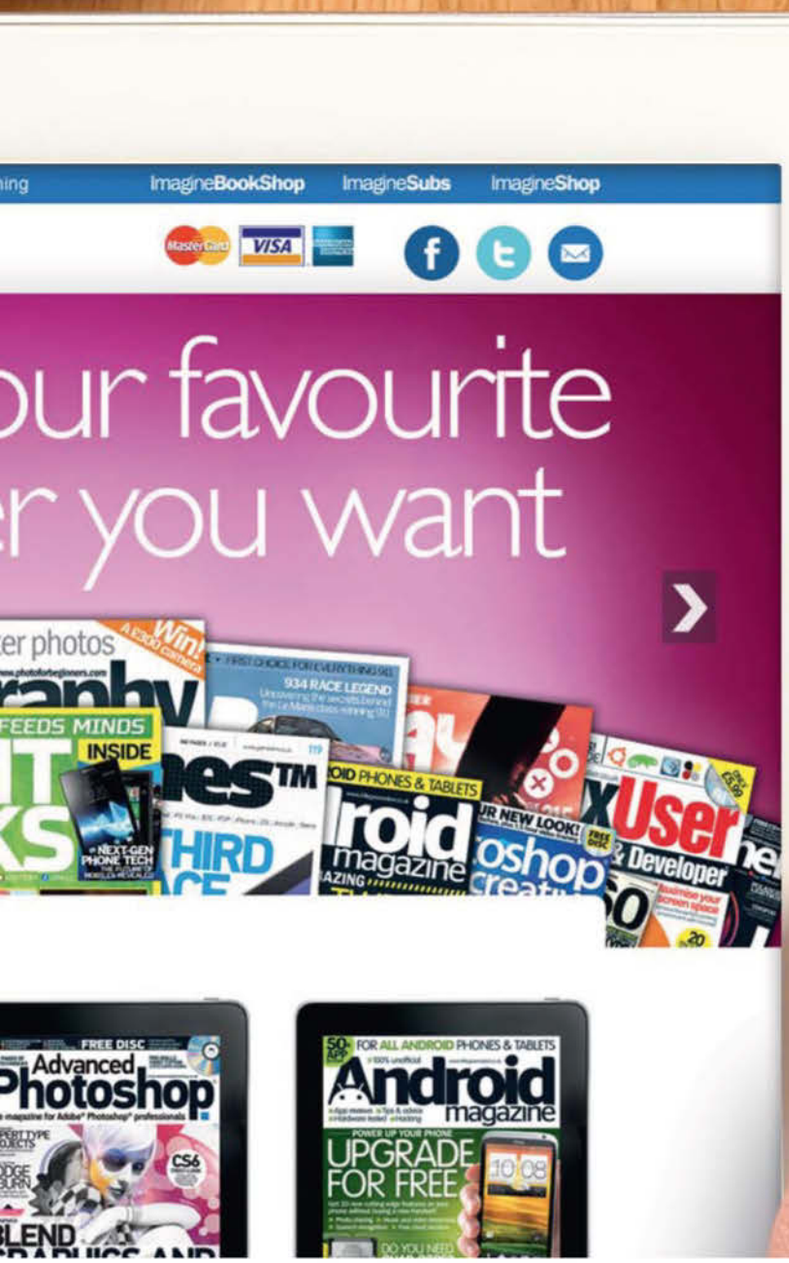
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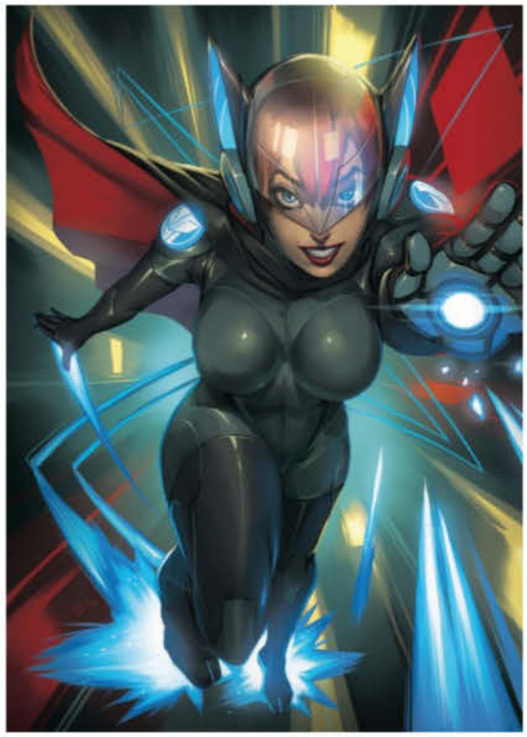
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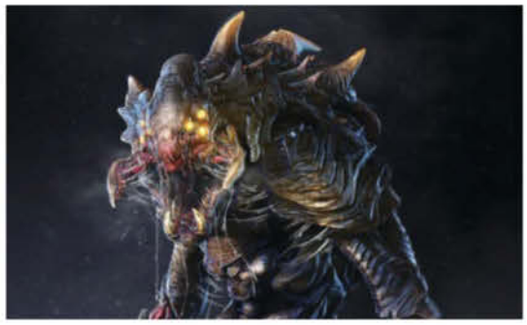
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